Stray Thoughts about Cultivation, &c. &c.

THERE is a well known story of a certain Duke, who, on seeing a man ploughing a light soil with four horses one before the other, got off his horse, unhooked the two leaders, harnessed the two others abreast, and ploughed a few furrows out with his own hands, intending to show how easy it might be done with a pair properly geared. "Ah! it's all very well for you that can afford it," said the man; "but those new-fangled improvements are too expensive for a poor man." Jethro Tull found the greatest objections made to sowing artificial grasses, the farmer saying "gentlemen might sow them if they pleased, but the tenant farmer had got his rent to pay," as though sowing clover would disable him from doing so; "yet now," he continues, "the case is so much altered that he could not pay his rent without sowing it." Not a few have heard the same objection urged against the introduction of bone-dust, of guano, of draining, subsoil ploughing, each in succession. It is a mistake to attribute these things to obstinacy, or any unwillingness to adopt an improvement that *can be perceived*; it is in the perceptive faculty that the impediment lies—a faculty that will not act of itself without exercise, any more than that of reading, writing, or playing on a musical instrument.

We are born into a ready-furnished world—a world stored like a granary with the labors of those who have gone before us; and we complacently avail ourselves of the comforts and conveniences that lay ready to our hand, little reflecting through what a travail of human thought, encountered and renewed through successive ages—through what repeated conflicts with prejudice, and even persecution, we have inherited many of those appliances of art, and most of the discoveries of science, which have gradually built up stone by stone, and adapted with so many material comforts, the station that we have reached in the history of human invention. The history of the Useful Arts beckons us to look back now and then upon that long line of road, rough, arduous, and crooked as it is, that lies behind us in the journey of our race to its present point of progress and attainment.

The chart of history is very barren regarding the industrial pursuits of former ages. We ask almost in vain, what was the condition, what the inner history and pursuits of that large portion of mankind who were disengaged, or remote from the rude pastime of hostile conflict with their fellow men. Husbandry must have been carried on without intermission, and commerce must have flourished, though the historian has not deigned to come down from the supposed elevation of the warrior to the level of the masses who labored at home. The time arrives when *the silence* of all records awakens our curiosity more than the high-sounding themes of emperors and kings, whose absurdities fill our books, can satisfy. All natural laws seem to testify to the *slow growth* of whatever is most permanently valuable. The history of Agriculture would, in some sort, be the history of civilization. The husbandman is the persevering antagonist of those elements of international and social disorder, which might seem to present man as the great *disturbing agent* of an otherwise harmonious creation.

We can trace this useful member of the community but rarely with accuracy. The Romans seem to have been the best ploughmen; the furrows were straight to perfection. When any one ploughed a crooked furrow, he was said, *de linea arare* (to plough out of line), which was abbreviated into the word *delilare* (to go wrong or to stagger), whence we derive our word *delirious*. Occasional

glimpses are afforded, but in the main we have but little knowledge of ancient tillage, nor, perhaps, to the practical man is it of much importance.

In the Middle Ages Saracenic Spain seems to have been the best tilled. To this day the traveller in Valencia and Granada, amidst scenes of utter apathy and indolence, varied only by a chronic system of intestine dissension, often meets the neglected remains of a most magnificent system of irrigation, remaining like monuments of the indefatigable labors of a race that has passed away, but carrying with them so lasting an attachment to Spain, that long after their expulsion from Europe, they retained and handed down through many generations recorded titles of their estates, and even the very keys of their houses in the Spanish Peninsula.

There are lost arts undoubtedly, and in agriculture and gardening we are not sure but that sometimes we might derive benefit from the olden times. Mr. Prescott tells us, that along the table-lands of the mountainous districts of Peru, and in dry and unfruitful valleys, the singular practice was adopted of digging what may be called *subterranean fields;* the upper soil was thrown out, till they reached one more moist and fertile, and here, twenty feet below the natural surface, in a sort of sunk hot bed, manured with fish from the sea-coast, or the still more enriching deposit of guano from the islands along the coast, they raised abundant crops of corn and vegetables.

No pheasant in an English preserve is watched with more jealous care than the Incas extended to the sea fowl of the guano islands. To kill one of them, or even to set foot on their island territories during the hatching season, was as much as the life of a Peruvian was worth. *Now*, under civilized (?) rule, we kill the goose that lays the golden egg, regardless of posterity.

There is scarcely a reflecting mind which does not feel that amongst all the wonders of advanced or advancing science, the greatest wonder is its own infancy; that man should have looked upon nature so long, and known her so little, and that what little we have learnt should have been learnt so lately.

Of all the centuries which make up the history of the world, take away all but the last, and what becomes of that elementary science, little yet valued at its ripe importance, which directs and explains to us the simple elements and constitution of all the matter we behold—of every existing substance that we come into contact with by the aid of our bodily senses, of everything, in short, that we can touch, taste, smell or see, and of a great deal which is not cognizable by the external senses, but only those of the mind, such as invisible gases; where again would be that other science, which investigates the substance of the planet on which we live and move, and which, step by step, interrogates the solid rock, and chronicles its place in the history of creation, by the evidence inclosed in its successive layers of once living creatures, now lying in monumental forms more real than sculptured effigies, and affording by the regular series they present of fossil anatomy and osteology, a complete sketch of the rise and progress of organic forms of plant and animal, antecedent to those we now see around us. Where, again, would be that analytical history of organized matter which explains the growth and structure of all existing forms of life, containing within themselves the principle of increase and reproduction? We allude to chemistry, geology, and animal and vegetable physiology. These three sciences, to mention no others, are each directly connected with the labors and the studies of the agriculturist and gardener; and when we lift our eyes around us, and see the accumulation of results, the realized forms of human comfort and enjoyment, the means and appliances of life, which one or two centuries of discovery in those and other sciences have supplied by their application to every useful art, it is surely a somewhat startling thought, or would be, were we not so accustomed to overlook it, that for

so long a portion of the world's history such studies had no existence; that for ages upon ages human life passed without them.

One of the tangible causes in operation to retard the growth of agricultural knowledge was found in the variety of climate. The easy labors of the Egyptian husbandman afforded little to guide more northern nations under the changed influences of the elements and seasons; every detail was invested by the preponderance of heat and cold, drought and moisture. The progress of the art was checked, as the conditions of its practice varied at every step, and differences of climate were again broken up into smaller areas by varieties of soil. A light soil required quite different treatment from a clay, and what was true of either, a little above the sea, would no longer be true at a height of seven or eight hundred feet. A science can only grow by the observation of *individual facts*. Can it be wondered at that the literature of agriculture should have proved so useless, so apparently impractical, and therefore so distrusted, when every rule laid down was liable to be found false on application; that, like faëry money, what seemed gold in the hand of the giver, proved dust in the hand of the receiver. Thus there was little or no history of agriculture or gardening to write. They are the arts of the world's advanced age; their science is prospective; every day's addition to the population of a country enforces it upon human notice and intelligence by the repeated impulse of daily necessity. Where the active minds of old were intent on cathedral architecture, our scientific men reveal to us the structure of the plant, and give us principles on which to erect our fulcrums of action. The birth of chemistry, a science which unfolds the laws and structure of the soil and the plants it produces, with the phenomena of their growth, must obviously afford an epoch from which all analytical progress in agriculture must take its date. Its practice must be merely empirical so long as its elementary principles are unknown; it was equally useful as the magnetic needle to navigation, or steam power to the mechanical arts. Knowing this, good citizens are now turning their attention to teaching it in colleges, to be disseminated everywhere. The *principles* must be known before true progress can be attained. Cultivation by steam power is now as near being an established fact as the steamboat was twenty or thirty years after Fitch's success. The harvesters and steam-threshers are but the forerunners of modified ploughing.

Causes and effects which were once regarded as purely physical and temporary, begin to assume a wider aspect, a permanence and moral fixity of purpose, which, when regarded by themselves, we had never attached to them. The sustenance, the comforts, the conveniences of life, achieved by art and science, are no longer the mere utilitarian objects of human ingenuity, nor the matter from which they are struck out, things to contemplate independently or for their own sake alone. Physical things, and the sciences which relate to them begin to be invested with a garment of meaning and of purpose altogether new. The drained morass, the fresh-turned fallow, the waving corn-field, the meadow with its herbage interspersed by flowers, no longer stand separately before us as things of mere labor, utility or beauty, or our relation with them the accident of a day. A higher ordinance and appointment, enveloped within the teaching of science, become gradually but irresistibly revealed, binding and disposing all to work together to the greatest ends, not of the individual only, but of the whole family of man; not of his physical necessities, or intellectual pursuits alone, but of his whole relation with that Highest Wisdom whose evidences and attributes are engraven upon the fabric of nature, in characters not of power or knowledge only, but of universal and inexhaustible beneficence.

NEW PLANTS.

ILEX FORTUNI.—There is growing in the nursery of Mr. Glendinning, of Turnham Green, a handsome evergreen Holly raised from seeds collected by Mr. Fortune in China, at a place named Hwuy-chou, where it formed a fine tree, loaded with large berries in December, 1853. In its young state it is much like I. cornuta, but in the adult condition it acquires quite another appearance, resembling a very broad-leaved, entire-leaved European Holly. The flowers are unknown, the specimen before us being only in fruit. In that state there is in the axil of each leaf a sessile umbel of from six to ten stalks, each about three-quarters of an inch long; so that, when loaded with berries, it must have a glorious appearance. We can find no description of any Asiatic species (of which there are many) that will apply to this, which we therefore suggest should bear the name of its intelligent discoverer.

LUPINUS MENZIESII (*Mr. Menzie's Lupin*).—A shrubby, Californian Lupin, with yellow flowers. Sent to Kew Gardens by Mr. Thompson, of Ipswich.—*Botanical Magazine*, t. 5019.

EICHORNIA TRICOLOR (*Three-colored Eichornia*).—It has also been called *Pontederia tricolor*. A Brazilian aquatic plant. Its flowers are purple, blue, and white.—*Ibid.*, t. 5020.

BEGONIA LACINIATA (*Cut-leaved Begonia*).—A native of Silhet, Nepal, and Eastern Bengal. Flowers, large, white, tinged with pink. The leaves beautifully variegated, with purple round the edge, and in the centre of the upper surface; the edge and veins on the under surface deep pink.—*Ibid.*, t. 5021.

ILLAIREA CANARINOIDES (*Canarina-like Illairea*).—Native of Central America, and introduced thence to Europe by M. Warszewicz. It is a hardy annual; "but is a very dangerous neighbor, one of the men in Kew Gardens having suffered severely, and for some weeks, from being accidentally stung by it." Flowers, dull brick color, appearing in July and August. It belongs to the natural order Loaseæ.—*Ibid.*, t. 5022.

RUBUS NUTANS (*Shaggy-stemmed Raspberry*).—This decumbent species is a native of the Himalaya Mountains, at elevations of from 8,000 to 11,000 feet. It came from Mr. Low, of the Clapton Nursery; but when, or by whom, introduced, is not known.—*Ibid.*, t. 5023.

THE PAMPAS GRASS (GYNERIUM ARGENTEUM.)

FROM THE LONDON FLORIST.

WITHIN the last few years, those who were so fortunate as to possess plants of the Pampas Grass, and transferred them to the open soil, have been gratified in witnessing, each summer, the beauty of its long, slender leaves, which form bundles or sheaths at their base, and rise to the height of six or eight feet, when they gracefully curve outward, giving the plant the appearance, at a distance, of a hemisphere of beautifully curved lines. Towards autumn, when the leaves have attained their full development, the flower stems appear from the centres of the strongest sheaths, shooting up perpendicularly three or four feet above the mass of foliage, and gradually unfolding a plume of elegant, feather-like flowers, which at first are of a silky whiteness, but assume a darker tint as the season advances. The striking beauty of this plant in the autumn, was the theme of all who saw it, and a large supply of seeds having been distributed by the Horticultural Society as well as sent out by the trade, the plant is now met with in most gardens of any

repute; it has fully established its popularity, about which there cannot now be a question. We have received from several of our correspondents dimensions of plants under their care, varying from twelve to fourteen feet high, and ten to eighteen feet in diameter, with from a score to fifty heads of flowers. When frosts have occurred in September, about the time when the flower stems appeared, they have injured them, as at that stage they are succulent, and consequently tender, and are also then frequently broken by high winds.

Although the Pampas Grass is not very particular about soil (provided it be open), yet, to insure a rapid growth, a deep, rich soil, well manured, will be found desirable; the plants should likewise be very liberally supplied with water during the period of active growth. The situation should be one fully exposed to the sun, with a dry subsoil, and as much as possible sheltered from high winds, which will sometimes break off the flower stems when young, and thus rob the plant of a part of its beauty. The plant ceases to grow after November, and the frosts of winter will induce a state of rest, and may brown and even kill the upper parts of the leaves, in exposed places, down to the stem; but if the subsoil is dry, no harm will happen, and, on the return of warm weather, a fresh growth will commence. The plant increases itself in bulk by forming a large increase of stoles, or new bundles of leaves, and, with good treatment, soon becomes a large specimen.

This grass has now become cheap, and the question of what can be done with it, may now be discussed more fully than when its scarcity made it a pet, and of course the most prominent part of the lawn or flower garden was allotted it. Although graceful in the extreme, we cannot bring ourselves to consider the flower garden as exactly the place for this grass. From March to July there is nothing in its appearance that can be considered ornamental; after the latter period the growth is very rapid, and it is then that its claims to an ornamental plant can be fully appreciated. We intend selecting an open site for it, backed up with evergreens, against which the appearance of its silvery plumes would admirably contrast; it might also be formed into groups on the margins of lakes or running streams of some magnitude, for it would be bad taste to plant so grand a thing near a small pool or puny brook. If planted near water, the ground should be elevated above the ordinary level; for, unlike our Carexes, this is not a bog plant, strictly speaking, but is found in a state of nature inhabiting the vast *pampas* (whence its name) of Buenos Ayres—level plains extending for hundreds of miles in La Plata, and reaching from near the shores of the Atlantic to the foot of the Andes. On these immense plains (which contain but few varieties of plants, and scarcely any trees or shrubs) vegetation is exposed at times to extreme alternations of drought and floods—the *pampas* presenting, at certain seasons, all the appearance of a dry and parched vegetation, and, at other times, of almost unequalled verdure. The period of blooming in this country corresponds with the summer of its native land, and we may infer from its native habitat that a sunny, open exposure, with a dry state at the roots while in a dormant state, and an abundant supply of moisture while growing, will very nearly approximate to the conditions of its native climate.

The Pampas Grass may be propagated by division of its numerous stoles, with a piece of root to each, or by imported seed (for we do not imagine, from its season of flowering in this country, it will ripen any seeds here), which should be sown on the surface of broad pans or boxes filled with sandy peat. The soil should be kept moist and shaded, when the young plants will soon appear, and may be pricked out into other pans till they are large enough for transferring to the open ground. Botanists describe the Gynerium as being diœcious, or having

male and female flowers on different plants; the male flowers being wanting in size and brilliancy of color, any plants found producing them should be destroyed, as the propagation of the female or more ornamental variety is easily effected, and plants only from this kind should be made use of.

By way of helping our description, and to enable our readers better to judge of the effect produced by the Pampas Grass when in bloom, we append a woodcut

of a plant growing in the beautiful grounds of Stoke Park, the seat of the Right Hon. H. Labouchere, and long the elegant seat of the Penn family of Pennsylvania celebrity.

That plant of this grass is one of a lot of seedlings raised in 1854, shifted into an 11-inch pot in the autumn, and wintered under glass, merely keeping the frost from it. It was planted out in May, 1855; it grew luxuriantly, and, in October, 1856, it had eleven fine spikes of flowers, and, in the present year, it has forty-two spikes, from ten to eleven and one-half feet in height.

The subsoil, where it is growing is gravel to within a few inches of the surface. A pit was taken out for it three and one-half feet in width and two feet deep, and filled up with loam, with a mixture of charcoal and well-rotted manure.

[Mr. Buist thinks this grass not hardy at Philadelphia; for the South it will certainly be very valuable.—Ed. H.]

SALVIAS, &c. &c., AND THEIR CULTURE.

FROM THE LONDON GARDENERS' CHRONICLE.

These are very important adjuncts of the plant-house in winter; indeed, indispensable. The best kinds for winter work that I have met with are *S. splendens* and *S. Gesneræflora;* the *S. fulgens* may also be added. For winter blossoming, these are valuable, and their culture very simple. They should be propagated annually by cuttings in March, got speedily into small pots, and receive high culture in the greenhouse or a frame. In order to render them bushy, they must be frequently pinched; and, indeed, this pinching may be continued up to the end of June, when they may be allowed to form heads for blossoming. They may be flowered in seven-inch pots in perfection, although it is very convenient for some purposes to have a lot in five-inch pots also. By the middle of June they should be placed out of doors in cinder ashes in a very sunny situation, as they abhor shade, and all they require during the summer is regular watering. In the end of September, they should be placed in a cold frame for fear of frost, or, if room, on the front shelf of a greenhouse. No pinching may be allowed after this. A few remarks concerning soil are necessary. Most of the Salvia family run too much to leaf, and are apt to become long-jointed. Now, the elements that conduce to this habit are rich soils, too much air moisture, and a want of light. These evils, therefore, must be avoided. For compost, nothing is so good as a plain, strong loam; this, with sound drainage, will be found to grow them shorter-jointed, and more compact, and will enable them to withstand an hour or two of drought without suffering. In all their stages they require full exposure to sunshine, and, when approaching the blooming condition, simply a cool and an airy situation in the house.

Ageratums.—These are very useful as winter flowers, at least through November and December. They are best from cuttings struck in July, which, with proper cultivation, will become nice stock plants by the month of October. They must be frequently pinched in order to render them bushy, and may be finally established in five and seven-inch pots. The stopping, or pinching, must cease after the beginning of September, and all they require after is a cool situation on a greenhouse shelf, or in a frame.

Gesnera zebrina.—This is a stove plant of great beauty, much admired for its zebra-like foliage, as also its brilliant scarlet flowers. The plant sinks into a state of perfect rest after the manner of the Gloxinia family, and the dry roots must be taken out of the old and dry soil in March and repotted. This plant requires a generous soil, one composed of equal parts of sound loam, old manure, a free peat, and some silver sand, will suit it well. The chief thing is to give it plenty of heat; few plants enjoy more. To grow it in high perfection, with

vivid coloring, from 70° to 80° are necessary. Another point is to allow it plenty of air moisture. Bottom heat is of great importance too, especially in the earlier stages of its growth, 70° to 80° if possible. Most of this tribe enjoy a partial shade, or, at least, are averse to intense sunlight, which is apt to deface the foliage. All possible care should be taken at all times not to injure the latter; therefore, when moved, cautious handling is necessary. When in blossom, they will do very well in the very warmest spot of a greenhouse, although an intermediate house would suit them better.

CYTISUSES.—This family is well known as a most useful winter shrub, some kinds very fragrant, and being evergreens, they are particularly desirable. They are propagated with facility by cuttings in the spring. But these cuttings, with every appliance, will require a second season's growth to make them into nice little plants, or, in other words, to commence blooming fairly. They become annually finer, and, of course, larger, until, of course, in a few years, they become too large and too coarse for ordinary purposes. Their soil may be two parts a sound loam and one part peaty material. Their culture otherwise is very simple. They are essentially greenhouse plants, but will endure low temperature readily; absence of frost, however, is requisite. But to have them blossom through the winter, a little coaxing at the proper period is requisite. The best plan I have found out concerning them is to treat them on a similar principle to such things as Camellias, viz., to force them into early growth, pinching away freely all the while, and after accomplishing this, to turn them out of doors in a half shady situation at midsummer, housing them again by the middle of September: this I say with regard to winter blossoming. But they must not be coddled; they must have a light situation, with a moderate temperature. Perhaps *C. racemosus* is one of the most useful, but there are several species so much approaching each other, that they are a little awkward to distinguish. I may add that they are very useful for bouquets.—R. ERRINGTON.

CAN PEARS BE PROFITABLY GROWN FOR MARKET?

BY LEWIS F. ALLEN, BLACK ROCK, N. Y.

AFTER reading the glowing accounts which have been given in the many pomological discussions of the fruit meetings and conventions which have been held in different sections of the United States for ten years past, of the profits of pear growing, one unacquainted with the subject would think the above a very strange question to ask of the orchardist, particularly the pear cultivator; yet it is asked in all sobriety and earnestness by one who has not only attempted to be a grower of the fruit himself, but is well acquainted with many men who have attempted it and failed, and others who have succeeded to a limited extent, and can answer for themselves in the affirmative, if they choose, and this over a very considerable extent of country for the number of years enumerated.

Ten years ago (drawing my conclusions from the numerous articles I had seen in the *Horticulturist*, then edited by the late A. J. Downing), I became almost enthusiastic in favor of pear culture, and having succeeded quite tolerably in a number of young trees which I had planted some years earlier on their own stock, I planted out about five hundred young pears budded on the quince, as dwarfs, and added two or three hundred standards on their own roots. The land on which I planted them was new—that is to say, it had been but a few years reclaimed from the forest. It was a dry, clay loam, with a gentle descent to the east, passing off its surface water, rich in phosphates and the food of orchard trees. Apple,

pear, and quince-trees, had already been planted in adjoining grounds, and as like soils all about me had for many years produced their fruits successfully (the pear but so-so), I had little doubt of full success in my new enterprise. I had raised the best crops of corn, potatoes, other roots, small grain of different kinds, and grass, on the land, and could have no doubt of its perfect adaptation to the growth of the pear, either on its own stock or the quince. I obtained my trees from established nurseries, the varieties various in kind, and the trees themselves "warranted good." I had the ground thoroughly prepared by a previous potato crop, and deep ploughing; the holes were large; the whole work was properly done in planting. *I know how to plant a tree*, and every one was set by my own hands, so far as preparing the tree, placing it in the ground, and finishing the work, was concerned, having assistance only from my men in filling in the earth over the roots. For two or three years afterwards, root crops were cultivated among the trees, with plenty of good stable manure, and many of them grew well. The trees produced fruit, more or less, the next year after they were planted, and so continued to do while they lasted; they were properly pruned, and, three years after planting, the orchard was laid into grass, but dug every year thoroughly, for four or five feet in diameter around the roots, and manure *well* forked in. I say *many* of the trees grew well; some of them did not grow well. They soon became diseased, and died, or looked so unpromising that they were taken out and replaced by others obtained from the nurseries. Various ailments, however, were continually occurring among them, and within five years after first planting, I had replanted about the whole number in the orchard; not every tree, understand, but equal to twice the original number in the whole. Occasionally, a doubt would arise whether my pear enterprise was to be altogether successful; but I was continually reading the *Horticulturist*, the agricultural papers, and the proceedings of the pomological meetings, which I sometimes attended, as well, in which all the new and enthusiastic pear growers seemed to be moving in the full tide of successful experiment. I occasionally invited my pomological friends to see my orchard, who, as they looked over it with me, admired some of the trees, shook their heads at others, asked many questions, and "*hoped* I would succeed." Some of them now and then ventured to inquire whether I had taken care to give them good cultivation, and wondered why some of the trees should look so thrifty, while others looked so bad, and "had their doubts" about them; yet some of the trees continually kept dying. A few would be attacked with a blight in the bark, showing black blotches on their trunks, near the root; they were planted mostly with the quince wood very near, or altogether under the ground. Others stopped growing altogether, stood stock still, but still lived. Others, again, would spot all over the leaves; and occasionally the fire-blight would take a hop-skip-and-jump, killing outright a dozen or so in different parts of the ground, and letting the rest alone. They were well cultivated. *I know the fact;* and never took half the pains with any other fruit-trees that I did with that pear orchard. My apple and quince-trees, on their own stocks, which stood near them at the same time, grew well, flourished, and bore fruit in abundance. And so did many of my pear-trees, on their own stocks; yet these latter, even, in far too great numbers, which were immediately adjoining the dwarfs, died out. But the story was soon told. In the winter of 1855–6, myriads of field mice infested my grounds; the snow came in hurricanes of depth and drift, and when it went off in the spring, almost every one of my once promising and hopefully nursed trees was thoroughly girdled by the mice, and the trees as dead as if a fire had run through them! Though sadly cast down at this unlooked-for termination of my labors, I confess that I felt a relief from any further anxious and unrecompensed labor in that line;

and thus ended *my orchard* pear cultivation. But I will still further explain: I had the "best varieties" for dwarf culture in my assortment—all taken from "the authorities" laid down in the books and the "conventions." I had about fifty of the finest "Dutchess" I ever saw, which I got when but a year from the bud, when I planted them in a nursery row in the garden, where they grew beautifully for three or four years. I carefully lifted them, with large balls of earth on the roots, laid them on a wheelbarrow, took them to the orchard, and planted them carefully; yet they never grew any afterwards, and bore but a few indifferent pears.

"Very well," may say my readers. "But one swallow does not make a summer, and others may have done better." Let us see. I can now number up twenty or thirty of my friends and neighbors who commenced pear cultivation about the same time with myself, and if not so extensively, quite as enthusiastically and hopefully. We then had a horticultural society in Buffalo. We held frequent meetings and discussions, compared notes, visited each other's grounds, showed our fruits, and did a great business—in the future. We had diverse soils, exposures, cultivations, and all, to pretty much the same extent, according to numbers, suffered in loss and calamity; and the upshot has been, although the mice injured their trees but slightly, compared with mine, as they were more "in town," their orchards (which were planted in fifties and hundreds) now show but a few scattered, dwarfish trees, promising little for the future, and not worth attention, only for the purpose of a few family fruits. Out of the whole number who started so enthusiastically in the pear line, I know but one who still shows any confidence in the dwarf pear, and he, I imagine, more out of a constitutional obstinacy in never confessing to an error than from any success he has achieved in their culture. Every other one of our *coterié* either blurts out the fact that "dwarf pears are a humbug," or drops his head, and says nothing, when asked "how his pears are getting on?"

Nor is this all. The same result has occurred with scores of other pear growers between this and Albany, all along through the best fruit sections of New York, three hundred miles in extent. I attended the annual meeting of the Society of fruit growers in Western New York, at Rochester, last January, and among all the fruits exhibited saw not a dozen good specimens of winter pears, a few very moderate Vicar of Winkfields only. So, at the late meeting of the New York State Agricultural Society at Albany, where a very creditable show of winter fruits was made, *one* solitary little plate of imperfect winter pears was seen. A winter pear, indeed, is of little account any way; they are cold and watery, and but little better as a *winter* fruit than a melon. And such is the result of the millions of dwarf pears which have been planted out within the last dozen years in this great fruit-growing State of New York, where the result ought to be—if there were anything at all *in* their cultivation—any quantity of the finest of winter pears, Nelis, Beurré D'Amburghs, Glout Morceaus, Easter Beurrés, and others in market at their proper seasons! There are exceptions to all this disappointment and desolation, I admit, but only enough to make good the adage, that "all general rules have some exceptions." Summer and fall pears, in the proportions which have been cultivated (so far as I can ascertain), have fared no better, except in *close garden culture*, where, with but a few trees in each, they *may* have done better; but even with them a large majority of the cultivators have condemned them. But they do it quietly, and don't care to make a fuss about it.

With standard pears, the success of one orchardist has been various. Disease has carried off the majority of them, in one shape or another; blight, in its various phases, has been the chief scourge, particularly with the finer varieties. Wildings,

which are hardly worth cultivation without working with the better varieties, have sustained themselves the best; but even they have been cut down to a considerable extent, wherever planted. Some districts I can name where they once flourished, but now scarce a pear-tree can be found, old or young; while the apple, peach, cherry, plum, and quince, thrive under equal cultivation. So far as my own observation extends, therefore, the pear, as an *orchard* fruit, *does not succeed.* At all events, numerous standard pear orchards have been planted out in Western New York within the last ten or twelve years, and I know of not a single one which is now *full*, or even *half*-full of trees as they were first planted; and if any orchardist has succeeded with the pear as he or others have done with the apple, peach, and other orchard fruits, I should be pleased to know it. Among all the numerous inquiries which I have made, the fact has not yet been ascertained. There are many large, grand, old pear-trees scattered throughout the country, some of them over a hundred years in age, and bearing large crops of *poor* wilding fruit every year—the remnants of orchards, their fellows having died out a great many years ago, so long ago, indeed, that but few living people remember them; but they only prove that the pear, even as a standard, only *occasionally* succeeds, instead of being a *reliable* tree for orchard culture. Men may *theorize* as they please as to the causes of their decline; I simply state *facts*, such as they have come to my own knowledge. I believe that I have succeeded quite as well as the average of those who have tried them, having now upwards of twenty quite fair standard trees about my house, growing in a strong, clayey-loam soil, and bearing, more or less, very good fruit every year; they have thus far escaped the blight, while some of my neighbors, chiefly on lighter soils, have been terribly scourged by that disease, and lost many of their best trees. I consider the pear much safer on its own stock than on the quince; yet, having no prejudices in this matter, and speaking only from my own observation, I freely admit that there may be localities in the eastern part of Massachusetts—about Boston, for example—where the pear, both on its own stock and on the quince, may thrive and be profitable for orchard cultivation. The statements of such pomologists as Col. Wilder, Mr. Hovey, Mr. Maning, and others there who say that they succeed in their cultivation, are not to be controverted with hypotheses or denial, at least by me. I only say that their locality is a fortunate one; for I do not believe that they have cultivated their trees any better than many others have done in other localities where they did not succeed at all.

The Profits of Pear Culture as a Market Fruit.—In looking at the remarkable statements which have been made at various times in the fruit conventions, and reading them over again as they have circulated in the periodicals, one would suppose that the profits of pear growing were enormous. The statements which have usually been put forth, relate to *single* trees in a favorable place, or to a *few* trees only, and in a bountiful year. The *average* of years would tell a far different story; and having experienced the same variations of success in my own cultivation, and seen it among my neighbors, warrants my own belief as to the *facts*. Forty years ago, when a boy, I saw beautiful Virgalieus selling in the New York markets, at the fruit stands, for two or three cents each, then the only really *choice* pear; now the Virgalieu is seldom in market, having been attacked almost all over the country, and *on all varieties of soils and situations*, with spot, and crack, and shrivel, and blight. Nor shall I allude to the cause of this recent disease, for nothing is yet known about it, other than that it exists; and although various cures have been suggested, the Virgalieu still suffers, except in some favored localities. That fruit, therefore, cannot be longer relied on, at present.

Within a few years past, other good varieties, as the Bartlett, Dutchess D'An-

gouleme, Winter Nelis, Stevens' Genesee, Vicar of Winkfield, a variety or two of Summer Pear, and others, have been seen in the markets, and sold in their seasons at from a cent or two to five or six cents each, possibly more in a few instances; but large sales at the latter prices are not frequent. Bartletts—the best market pear we have—are seldom worth over three dollars a bushel, and must be good specimens at that. Virgalieus, when *really* good, will bring five to six dollars a bushel. Seckles, better flavored than either, are worth no more, and, from their inferior size and color, unless the buyers *know* their excellence, will not sell for near as much. Indeed, the size, color, and appearance of the fruit, help the sale far better than flavor, and one may talk of "flavor" in an ill-looking pear to all eternity, and the public won't buy it. A *good-looking choke pear* is better, with them. We never could get over three dollars for our Bartletts in the very best samples when our orange pears, not good for the table compared with many others (yet are the very best for preserving), will sell for a dollar and a half to two dollars. In fact, so obtuse are the public to pear flavor, that a wilding will sell for nearly as much, in large quantities, as the best of other varieties, with no better looking *outside;* while in bearing, they will yield double or treble the quantity on the same sized tree. I met a friend the other day who had a few bushels of well-grown Vicars, which he sent to market some weeks ago, and could not get two dollars a bushel offered for them in a city of over eighty thousand people! He grows more pears than any one else about here, as he says, and only gets three dollars for his best Bartletts, which don't pay for growing, taking the seasons as they run. In fact, the only men about here who make any money by their pears, are a few farmers having large, old, wilding trees, which give large annual yields, and sell at about a dollar a bushel on the average. I have a single tree of the orange pear, thirty odd years old, which gives me an average annual yield of about eight bushels, worth more to me, at market, than all the others put together, expense of cultivation considered. How an *orchard* of them would succeed, I don't know; for although the single tree I have is healthy, a score or two of them might fail in part, or wholly. Still, I would rather risk them than any others I have ever tried; and they are a better fruit, every way, than the overpraised Vicar of Winkfield.

Now, the above is right in the teeth of all the flattering stories we so often hear of the "profits" of pear culture; and if anybody has a better story to tell, I want to hear it. Don't be afraid, gentlemen; you won't raise competition enough to damage your business. Our fruit markets are as lean of *good* pears as of fresh figs or pine-apples, although millions of trees have been planted within the last dozen years; and if those who have planted are fortunate enough to secure a good supply for their own tables throughout the pear season, they are to be congratulated.

Now, after all this flat-footed confession, a great many people may set it down as the grumblings of a disappointed man. Be it so. I have only told my own experience, and the conjugated experience learned from others. It is useless to say that we have taken no pains with our trees; that they were not properly cultivated and pruned. It is not so. Not half the pains have been taken with any other fruits we have cultivated. Cutting back, scissoring, pinching, and all the thousand and one "peddling" devices of the savans have been resorted to, and failure, so far as anything beyond a very partial success, in a few instances, has been attained, is the grand result. Men are inclined to let their *success* be known to the world, but of their *failures* they incline to say little.

"Well," it may be asked, after all this discussion, "do you recommend us to stop growing the pear altogether?" By no means. If you have a favorable soil

and locality, grow the pear for your own use, and the market, too, if, on trial, it succeeds. Grow the dwarf, even in your garden, but not elsewhere, and plant out standards at large, and make the most of them. I conceive the great objection to the dwarf to be, that the quince and pear woods are so diverse in formation that the open-pored wood of the pear will not closely unite with the compact and smaller-pored wood of the quince. Consequently, they are subject to blow off, when they get to any size, for want of adhesion, which, on examination of such cases, will be found never to have intermingled their heart-sap; and in other cases, after growing a few years, they will stop further growth altogether. In these last, examine the connecting point of the two woods, and they will be found to adhere only at the bark, and perhaps a small portion of the sap-wood, while the original stocks will no more be joined together like an apple or pear, worked into its own wood, than a pine knot which falls out of a board as you are nailing it up, joins to the grain of the main wood. Aside from this difficulty, dwarf-trees require *quince* culture in a *quince* soil, which are far from being so universal as pear soils are.

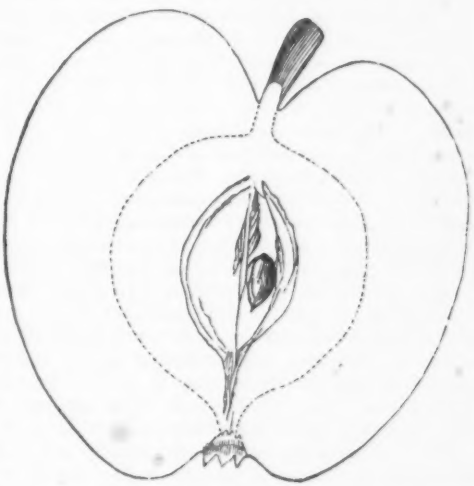
A long story, and a very useless one, I fear, Mr. Editor; but as the spirit moves, I have felt disposed to tell you my experience.

HOLMES'S SWEET APPLE.

BY E. S. HOLMES, WILSON, NIAGARA COUNTY, N. Y.

BELOW I give you a sketch of a sweet apple that is considered a great acquisition to our winter sweet apples in this vicinity, where it originated.

History.—The original tree was produced from seed saved by my maternal grandfather (Judge J. Taylor, of Charlton, Saratoga Co., N. Y.) and family, and brought by my father, Daniel Holmes, of Wilson, Niagara Co., N. Y., and planted where he now lives, forty years ago. From the product of those seeds he planted his first orchard, but subsequently reheaded by grafting all the trees except the one that produced this apple. This proved so good that he not only saved the original tree, but also had several others grafted with scions from it. He has also distributed scions to a limited extent.



Description. — Tree, a vigorous grower. Young shoots, a dark brown, with a slight reddish tinge, and partly covered with a slight fuzz. Fruit, medium size, conical, and frequently a little one-sided. Skin, a waxy yellow, resembling the Porter, with a red cheek when exposed to the sun. Stalk,

medium in length and size, inserted in a rather deep cavity. Calyx, open, set in a shallow basin. Flesh, yellow, tender, rather juicy, rich and sugary, with a slight spicy flavor—superior for the dessert, and unsurpassed for baking. A good bearer, with a tendency to overbear every other year. Quality, best. Season from November to February. The fruit is called here the *Holmes's Sweet.*

THE GRAPE AND ITS CULTURE—IN-DOORS AND OUT.

BY WM. CHORLTON, NEW BRIGHTON, STATEN ISLAND, N. Y.

To say that the grape-vine is as old as the hills, or that the varying arguments of ancient and modern cultivators respecting the individual modes of treatment are infinite, would be going a little too far in assertion; but we may affirm that it is one of the oldest purveyors to man's gastric appetite, and possesses a separate longevity equal to any other known plant, when nature has accidentally placed it in a region and soil congenial to its constitution, or man has cultivated it in an uninterruptedly sensible manner. We have no records of a grape-vine dying out of old age under such circumstances, while we have plenty yet in their prime that verify the above presumption. These instances are, however, known to be beyond the controlling influence of that mystification and opinionative narrow prejudice which leads some people to believe that, because the grape-vine will for a time devour the strongest and most filthy of manures, it is absolutely necessary to supply such materials *ad libitum.* Put common-sense to reflect upon what one of the most extreme advocates for such nuisances recommends, and see how it looks. Besides advising "a soil made up of ordinary richness with leaf-mould, dung, and so forth, we are to add *one good horse or cow to every ten square yards,*" cut into pieces, and applied *fresh.* Now we admit that the grape-vine is one of the greatest gluttons there is in the vegetable kingdom, when the leaves are in an atmosphere conducive to vigorous development, but, like an over-fed fat hog of limited age, there is not "bone and muscle" enough furnished, in the mean time, to support the wear and tear of the natural lifetime of the subject. "Big talk" often comes out of such results for a time, and immense bunches of watery fruit are occasionally produced; but watch the progress for a number of successive years, and our word for it, such gorged gluttons will become much weaker, and more predisposed to disease and barrenness, than where the true constitutional habits have been cared for. The plain fact is, there is nothing mysterious about the cultivation of this plant, neither is there any other that will bear a greater amount of ill-treatment, and again recover. We have said above that the grape-vine is a plant of great longevity; yet some of our cultivators, both in the vine-yard and under glass, consider it necessary to replant after a few years of bearing, because, according to their belief, the vines are worn out. Now if we find that, under different circumstances, certain individuals that have received more rational treatment are known to be hundreds of years old, and are still as healthy as they were a century ago, also continuing equally fruitful, and that fruit of the best quality, it stands to reason that there must be a screw loose in such experience somewhere. To secure this robust old age, and the consequent profits arising therefrom, it becomes requisite to consider the true nature of the plant.

First. It is always found to be most at home in a tolerably rich upper base abounding in vegetable matter impregnated with limestone, and accompanied with a well drained subsoil. *Second.* It is a rampant grower in all its varieties, producing a large volume of branches and leaves, the latter of which respire and perspire very freely, and act by drawing up and elaborating the juices from the

roots, and also absorbing the moisture and gases in the atmosphere. According with the amount of surface in these leaves, and concentration of action under the influence of steady heat and light, so will be the corresponding ratio of roots and wood healthy, and of permanent structure, or otherwise. Such being the case, it is easily seen, that if the extension of growth be unduly encouraged by over-rich compost (more particularly while young), the cellular and vascular tissues will become deranged by the excitement, and neither roots nor branches partake of the indurated character they ought to. Added to this, we have, generally speaking, more close pruning practised not only in winter cutting, but summer shortening, also, on this fast growing vine than any other fruit-bearing plant. Recapitulate the circumstances, and in the first place we force a plethoric growth by stimulating manures, and afterwards the plant is prevented from performing its proper functions by being permanently cramped into a comparatively very small superficial surface. How, we may ask, is such a being to form an increase of hardened woody fibre in the roots, or how is it possible that they can continue to have strength enough to be vigorous absorbents of the fluids around them? The finale speaks for itself. A premature imbecility, with the consequent tendency to mildew, shank, dry rot, decayed roots, and all the other known and unknown diseases we have to complain of.

To come more practically to the point: Either in the grapery border or out-door culture, it is indispensable to secure a free passage for the surplus water from the subsoil by good drainage. Make choice of good, friable soil enriched sufficiently with decayed barnyard manure and vegetable mould, and if crushed bones are to be obtained readily, add a portion. No harm will be done by these latter, and no proportions need be given. If the flesh is not on them, they will give out very slowly, and prove permanent. Much as has been written, and many as have been the arguments respecting the composts for grapery borders, I speak with confidence and from experience in stating that better grapes may be grown by simple double trenching, with good drainage, and the addition of a reasonable quantity of the above-mentioned material than are frequently obtained by the most fastidiously formed and ruinously expensive beds that are too often compounded. The following will prove a most efficient bed when the best results are desired:—

Dig the border clear out from fifteen to twenty feet in width, from the base front of the house, and two feet six inches deep. Let the bottom level slope somewhat towards the outside line, along which excavate another foot deeper, and the same wide. Fill this drain with rough stones or other such material, and cover six inches of the same over the whole base. If the soil taken out, or any portion of it, be of good quality, reserve it, and mix one-fourth in quantity of barnyard manure and decomposed vegetable matter with one bushel of crushed bones to every cubic yard in bulk. Whatever quantity of earth may be required besides that taken out, procure it from a pasture of friable loam, and use only the upper turf sod. Cover the drainage base with these sods, also, and fill in the prepared compost to one foot above the ground level.

Planting, Training, &c.—Choose for all purposes healthy vines of one or (at most) two years' growth from the cutting or bud. For outside, make a hole three inches deep, and level on the bottom; spread out the roots carefully, and fill up with well broken soil. In the grapery, smooth the surface, and cover over the roots so as to form a small mound around each stem, which may afterwards be shortened down to two or three buds. When these buds have grown some two or three inches, take out all but the strongest. Train this carefully to the wires or poles as it advances in growth, and pinch out the laterals or side shoots

to the first leaf as they continue to be produced. If the weather be dry and hot through the summer months, mulch the ground with littery manure, and give occasionally a copious supply of water to the roots. Do not stop the leader until the wood begins to turn brown in the fall.

One of the best methods for future training, outside, is to conduct two shoots horizontally, one on each side of the main stem, and eighteen inches from the ground level. This may be secured for the present by cutting down to two buds above that height. These, in the spring, will push out the desired branches, which may be allowed to grow as the single one did last year. Next fall, cut them in, to four or six feet, according as they have grown strong, or the reverse. The third year from commencement they will develop side shoots, which are to be trained up perpendicularly to the trellis at the distance of eighteen inches apart. More than enough will be produced, the surplus of which should be rubbed off as soon as it can be seen which are the most suitable to leave. One bunch of fruit may now be allowed on each of these uprights without injury. The following fall, every alternate cane is to be cut down to one bud, the others being shortened in to five or six feet, and left to bear. And now begins a regular course of pruning. Those that have borne the last year are to be cut down to an eye, and the others that have emanated from the previous single bud left for fruiting next year. It may also be mentioned that a greater longitudinal surface can be gained in after years by extending the horizontal branches in like manner.

For the Grapery.—In the fall of the first year, cut down to five or six feet, and in the spring following, keep the heads curved downwards until the buds have burst. The object now is to form a future handsome plant. Leave each side shoot eighteen inches asunder, and rub out all the others. Train the uppermost perpendicularly, to be practised on the next season in like manner. It is expected, in this case, that the vines are some three feet asunder, and as we want to extend our lateral surface individually, they will, after a time, be too near each other. Let the alternate ones bear a good crop, and after the fruit is removed, take them out. Prune the side shoots of those left to six or eight buds; lay these in horizontally, and cut their side spurs to two buds from year to year, and so proceed and extend, reducing the number of plants, but increasing in surface those intended to be permanent.

Many persons set out upon the principle of caring little how a grape-vine gets along for the first two or three years, believing that it must arrive at a certain age before being allowed to bear fruit. It is high time for such doctrine to be repudiated. Commence at the beginning with good treatment, and no fear of after results, if the same liberality be continued. While I would not, by any means, advocate the over-cropping of a grape-vine, we certainly must contend that it will give us a taste of its sweets, without injury, after the first season, providing it has had justice done to its accommodating disposition. Not so, however, if otherwise; and at no time is there anything to be gained by over-cropping. Be guided in this particular by vigor and well ripened wood, and let no temporary greediness lead you to depauperate a healthy constitution. Increase the weight of fruit rather according to judiciously gained extent of surface than the age of a limited *stump*.

Inside of glass houses, we have great control over the injurious effects of our sometimes perverse climate, and owing to which we have to grow the foreign varieties in such structures. Here we can imitate an atmosphere congenial to their well-being by gradually raising the temperature, as development proceeds, from 50° to 100° (which is none too high at midsummer), in the daytime, with sunshine, increasing the moisture in accordance with the heat, and, afterwards,

as ripening progresses, dry off and lower down again to our wishes. But, out of doors, we have not such protection; and, notwithstanding our natives have a hardier habit, we ought to do what we can to assist the grateful plant, and enable it to repay us for kindness administered. Instead of allowing the branches to grow at random, thin out through the summer all superfluous and over-crowding growth. Do not take off the leaves, but remove entirely those branches that are not wanted for the future, and stop the ends of all laterals from time to time, as they push forth anew. In dry and sultry weather—at the beginning of summer—a washing with the syringe, of an evening, will be serviceable, and encourage a free circulation of the juices, besides assisting to keep clear of insects; and a good drenching at the roots will also do good under the same circumstances. Always bear in mind that a grape-vine flourishes best in a climate where the forepart of the season gradually rises in temperature and moisture to a tropical bearing, and an after dry and warm fall. Imitate this as near as you can, and if the roots are in a right base, with proper fertilizing material, there need not be any fear of failure.

As these few remarks are more particularly penned for the guidance of the amateur and those who wish to be their own grape growers, there is no use in giving a long list of varieties. The following are of the best quality, and the most profitable:—

Foreign Varieties.—*Black.*—Black Hamburgh, Black Prince, Zinfindal, Prince Albert, or Black Barbarossa. This last will not fruit freely if pruned in close. Let it extend the growth each year, and it will prove the best late keeping grape we have.

White, &c.—Chasselas Fontainbleau, White Frontignan, Royal Muscadine; and where fire-heat is used, Muscat of Alexandria, and Cannon Hall Muscat.

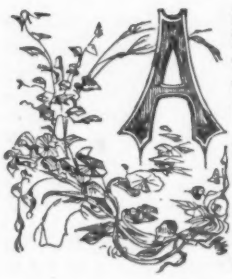
Natives.—*Black.*—Isabella, Concord. *Greenish-Amber.*—Rebecca, Diana. *Chocolate.*—Delaware.

THE TRENTHAM BLACK GRAPE.

The difficulty of keeping grapes with a good bloom on the berries, and free from shrivelling, through January, February, and March, is well known. The common Black Hamburgh, under particular circumstances, may be obtained in fair condition up to the middle of February; but, generally speaking, the berries get mouldy, and begin to decay in December, and even earlier than that, if the least damp is allowed in the house. The St. Peter's is a valuable keeping grape, vinous, but with more acidity than the Hamburgh, and with a better color and finer bloom than this latter grape usually attains; but even this requires great care, or it will crack, and become mouldy in damp weather, and the least overfiring causes it to shrivel. The Barbarossa is a fine looking grape, but takes somewhere about twelve months to ripen it properly, and then, besides being a fickle bearer, it is only second-rate in quality. Having seen and tasted Mr. Fleming's grape, we are of opinion that it supplies a *desideratum* wanting in this class of grapes, or, to say the least of it, it will form a very useful addition. The quality of the variety is very rich and vinous, with a full, syrupy flavor. It is, we understand, a most productive bearer, and, as Mr. Fleming observes, appears as hardy as a currant; and that it may be kept for a very long period after being ripe, we have ample testimony. The footstalks of this grape appear to retain their vitality long after the berries are ripe, and no doubt it is owing to this property that the Trentham Black keeps fresh and plump long after other grapes with less vitality decay or shrivel.—S., in *London Florist.*

DESCRIPTIVE LISTS OF THE BEST CINERARIAS AND LANTANAS IN CULTIVATION.

BY DANIEL BARKER, SPRINGFIELD, MASS.



S the collection at this establishment (Mr. Bliss's) is now in fine bloom, and being the best time to notice them, without trusting to memory, I will describe a few of the new with some of the older varieties, such as should be grown in all select collections :—

CINERARIAS. *Sir Charles Napier.*—This is decidedly the best blue which has come under my observation. Shape of flower, and habit of plant, first-rate ; a splendid variety.

Lady Paxton.—White, with beautiful lilac-purple margin, with dark disk petals, well formed, and producing large, compact heads of bloom ; one of the best in cultivation.

Admiral Dundas.—A very beautiful variety ; white, with pale blue-purple margin, and of excellent habit.

Optima (Hopwood's).—A charming variety in color ; it is clear white, with broad, crimson margin, dwarf and beautiful habit. An excellent exhibition variety, and should be grown in every select collection.

Rosy Queen (Bliss's), is a very attractive variety. Color, white, with a broad, rosy-crimson margin. Habit, very dwarf.

Magnum Bonum.—A splendid variety. Color, a rich purple-crimson, with a small, clear white ring around a black disk. Habit, first-rate, and, for exhibition purposes, unsurpassed.

Lablache.—A good variety for exhibition. Color, light blue. Habit, dwarf, and first-rate.

Queen of England.—A fine and beautiful variety. Color, clear white, with a beautiful, bright, rosy-crimson margin, and a dark disk. Excellent form and habit.

Fair America, is a rich violet-purple and crimson, with a beautiful, clear white ring round a black disk. Good form and habit.

Emperor of France.—A first-class flower. Color, a bright, rosy crimson, with a clear, broad, white ring round a dark disk. A beautiful and very attractive flower.

Several other new kinds, just received from Europe, shall be reported on when sufficiently in flower.

A DESCRIPTIVE LIST OF A FEW OF THE BEST LANTANAS.—This is a most beautiful genus, eminently worthy the attention of all who desire first-rate summer bedding plants; as such they are unsurpassed, and the day is not far distant when they will become great favorites with every lover of bedding plants ; and no flower garden will be considered complete without a bed or single specimens of some of the many beautiful varieties now in cultivation.

Lantana Doris.—A fine, bright yellow and orange ; a very fine and beautiful variety.

L. Abbe Touvre.—Orange and carmine, fine habit, and one of the most attractive in cultivation.

L. Speciosa.—Color, deep orange and scarlet. One of the most beautiful in cultivation.

L. Fesonii.—Rosy crimson and orange. The beautiful contrast in the colors of this variety, makes it one of the most desirable.

L. Abbe Grandiflora.—Clear white, with bright yellow centre. One of the very best varieties in cultivation.

L. Bicolor Formosa.—Beautiful light yellow, shading off to rose. Fine habit.

L. Lutea Superba.—Bright yellow. Fine habit.

L. Picta Superba.—Large flower; a beautiful bright yellow, shading off to rose. A beautiful variety, of great excellence.

L. Rhodoneana.—A very attractive variety. Color, yellow, shading to rosy crimson. Habit, free and fine.

L. Souvenir d'Alexandra.—Color, a beautiful combination of yellow, rose, and carmine. A striking and very beautiful variety.

L. Americana, L. Camera, L. Aurantiaca, L. Flavicoma, and *L. Crocea Superba,* are older, but beautiful varieties, and well worthy a *prominent* place in every flower garden.

PINUS LAMBERTIANA.*

Gigantic Pine.

THIS fine tree is pronounced perfectly hardy, even after the two severest winters we have experienced. Mr. H. W. Sargent, of Wodenethe, on the North River, so pronounces it. As yet, we have few specimens in this section of country of much size to refer to, but large numbers have been planted, and it will interest all to have Mr. Nuttall's account of the tree, from the *North American Sylva,* and it is appended:—

"This majestic Pine (according to Mr. Douglas, its discoverer) covers large districts about one hundred miles from the borders of the Pacific, in latitude 43° north, and continues to the south as far as 40°. It attained its greatest magnitude in a sandy soil apparently incapable of supporting any vegetation. The trees did not form dense forests, but were scattered singly over the plains.

"This stately species attains a height of one hundred and fifty to two hundred feet, and varies in circumference from twenty to sixty feet. A specimen overturned by the winds was in length two hundred and fifteen feet; its circumference at three feet from the ground was fifty-seven feet nine inches, and at one hundred and thirty-four feet from the ground, seventeen feet five inches. The trunk presents an erect shaft devoid of branches, of from one hundred to one hundred and seventy feet elevation, covered with a very smooth light-brown bark. The pendulous branches form an open pyramidal head like that of a fir-tree. The leaves are between four and five inches long, and grow together, like the *strobus,* in clusters of five, with similar short, deciduous sheaths; they are rigid, of a bright green color, but not shining, with the margin slightly scabrous to the touch. The cones hang pendulous from the ends of the branches, and are two years in acquiring their full growth; they are at first erect, and do not droop until the second year. When ripe, they are about eleven inches in circumference at the thickest part, and vary from twelve to sixteen inches in length! The scales are loosely imbricated, dilated, and round above, and perfectly destitute of armature. The seeds are eight lines long, and four broad, oval, and, like those of the Stone Pine, the kernels are sweet and pleasant to the taste; the wing is about twice the length of the seed, and the seed leaves are from twelve to thirteen. The whole tree produces an abundance of pure, amber-colored resin, which, when it exudes from the

* See Frontispiece, the cone reduced in size.

trees which are partly burnt, by some chemical change loses its flavor, and acquires a sweet taste, in which state it is used by the natives as sugar to flavor their food. The seeds (like those of the Cembra in Siberia) are eaten roasted, or pounded into coarse cakes for winter food. Timber, white, soft, and light. It is allied to *P. strobus*, from which, however, it is entirely distinct, but almost equally hardy in cultivation."

PURCHASING FRUIT AND ORNAMENTAL TREES.

How few understand, when selecting fruit or ornamental trees, that there are very material points to observe to secure trees that will thrive and do well. Every person who wishes to improve his grounds should become thoroughly acquainted with the value of his soil and all its leading features; wet or dry, deep or shallow, heavy or light; how the exposure, whether east, west, north, or south; clayey, rocky, sandy, or rich loam; and hilly or level. These are very important considerations, and without these being well understood, the highest degree of success cannot be attained. Want of attention to these matters has been the cause very frequently of great disappointment.

People order fruit and ornamental trees of nurserymen, and without ever giving any of these points a single thought, they plant them in places the very opposite of those they have been raised in, and the consequences are, very many die almost immediately, some linger a few months or years, and a few may manage to succeed partially. Now, cases of this kind are of very frequent occurrence; and when they do occur, they cause disappointment, and the nurseryman is unjustly blamed for people's own inattention to the above points. Almost every variety requires different soil, different exposure, and different treatment. Where the pear, plum, or cherry, will thrive admirably, the peach will grow indifferently, or not at all. And so with ornamental trees. Many tribes will thrive where others will not grow, and *vice versa*.

One important consideration in regard to the beauty of a garden, is the appropriateness of the trees planted. Too often we see a great want of judgment or taste in the selection of trees—large growing trees and plants in small places, and small trees or shrubs in large, extensive grounds. All this is evidence of a want of knowledge upon the subject, and can always be remedied by inquiry, so as to have trees conform to the size, exposure, soil, and situation, of the place where planted. In selecting trees, care must be had to select those that have clean, free-growing wood, well furnished with full, fibrous roots, good shaped heads, and well furnished branches.

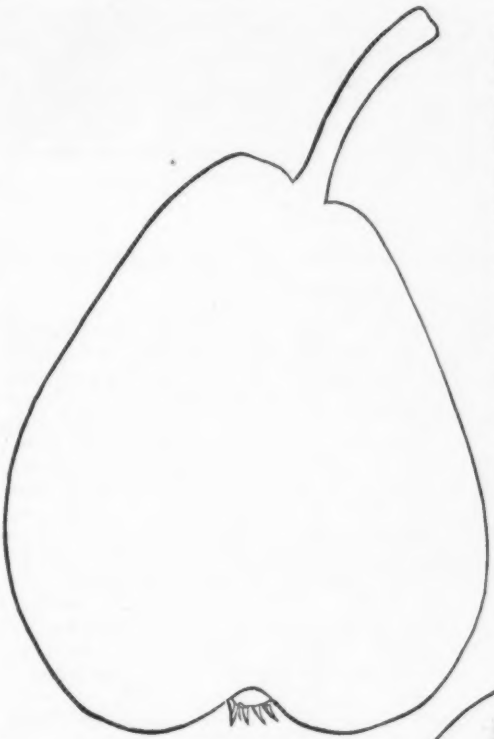
Too much thought is too frequently given to the *cost* of a tree rather than to the condition of the tree itself; better to give a fair, reasonable sum to a reliable nurseryman for a *good* article than to get it for little or nothing from a huckster or puffer, who deals in *cheap* goods. Always buy of respectable men, pay full prices, get the *best*, and you will not regret it.

NEW PEARS.

BY CHARLES DOWNING, NEWBURG, N. Y.

THROUGH the kindness of John G. Bergen, of Brooklyn, N. Y., we are indebted for specimens and history of the following new pears, from which the inclosed outlines and descriptions have been made; and, if acceptable, please insert in the *Horticulturist*.

CHAS. DOWNING.



Bergen Pear.

BERGEN.—The parent tree of the Bergen is a chance seedling, found in a hedge on lands now owned by John B. Ritching, at Bay Ridge, New Utrecht, L. I., formerly Simeon Bergen, and from appearance about thirty years old. Tree, moderately vigorous, upright; young wood, reddish. An early and good bearer, but not profuse. Mr. Bergen thinks it will prove a valuable market fruit, selling readily at the same price as Bartletts.

Fruit, large, elongated, truncate-conic, inclining to pyriform, often with sides not symmetric, angular. Skin, waxen, lemon-yellow, finely shaded with crimson and fawn on the sunny side, and thickly sprinkled with brown and crimson dots. Stalk, long, rather stout, curved, inserted in a moderate depression by a fleshy ring. Calyx, small, open. Segments, stiff. Basin, small, surrounded by a wavy border. Flesh, whitish, veined with yellow, a little coarse and gritty, buttery, juicy, melting, with a sweet, aromatic flavor, delicately perfumed. Ripe last of September and first of October.

Island Pear.

ISLAND.—The Island Pear originated with Cornelius Bergen, Flat Lands on Bergen Island (adjoining Long Island), some ten years since. Tree, a strong, free grower. Young wood, yellowish-brown. An early bearer, and very productive.

Fruit, medium size, short, pyriform, inclining to turbinate; often turbinate or Bergamot-shaped. Skin, pale yellow, netted, sprinkled, and patched with russet, and thickly covered with small brown dots, and slightly shaded with crimson where exposed to the sun. Stalk, very short, rather stout, inserted in a moderate depression by a ring or lip, surrounded by russet. Calyx, closed, or partially open. Segments, recurved, set in an abrupt, uneven basin, russeted. Flesh, white, a little granular, juicy, melting, with a sweet, sprightly, perfumed, somewhat aromatic flavor; "very good." Ripe, September to October.

GARDEN VEGETABLES NO. 14.—THE ONION.

BY WM. CHORLTON.

It appears somewhat singular that the improvement from an original state of many of our best kitchen esculents, has, or would seem to have had its beginning during the time which is generally known as the Dark Ages; and, in consequence, we are in the habit of saying that they have been in use from time immemorial. If we consider, however, that the teachers of theology, in those days, held almost despotic power; that they kept their knowledge amongst the privileged few; also, that the monastery was nearly the only school for gardening; and still further, that this individuality was well understood and much cultivated by these exclusives, the deficiency of many historical facts in horticulture is clearly seen. As we possess the result of their labors, which has, in many examples, been the forerunner of our present excellence, we may content ourselves with conjecture, and judge of physiological truth from our now more developed intelligence.

It is supposed that the onion was originally from Spain, but is just as likely that the knapsacks of the Crusaders were the receptacles of conveyance from the Asiatic continent. Whatever have been the means of introduction matters not in a practical point of view, as long as we have got so universally esteemed a vegetable.

The medical properties of the whole genus *Allium*, to which the onion belongs, are more or less stimulant and diuretic. In addition to these, the juice of our present subject is made into a syrup with sugar, and often administered to advantage in infantile croup and catarrh, when there is not much inflammatory action. It is also recommended in dropsy and calculous disorders; and when roasted, applied as a poultice to foul tumors. Notwithstanding these good qualities, there are many persons whose digestive organs are weakly, and which become deranged by the use of onions, when nausea and headache are the result. It is not advisable, in any case, to eat them either fried or in a raw state; for in the former, they pass the stomach comparatively by mechanical action, and in the latter, they often produce giddiness, and an affection similar to a "cold in the head;" while, properly boiled or roasted, they are nutritive and wholesome.

The onion thrives best in an open situation, having a free exposure to the sun, and a deep, rich, and mellow soil, that is not over sandy in its base, or wet in the subsoil. There is no danger of over manuring, provided the material is thoroughly rotted, or incorporated with the earth. Barnyard manure is the best fertilizer, but soot, guano, poudrette, urine, and soapsuds are all useful auxiliaries, and which ought to be applied in the fall, previous to planting. There is also a singular exception in this vegetable; while most others do better by rotation, the onion will continue to produce equally good crops on the same spot for many years in succession, if the fertilizing material is judiciously renewed. Many cul-

tivators have testified to this fact, and my own experience verifies the same, as I have grown prize onions on the same bed for ten consecutive years; consequently, a little expense at first commencement will lead to after profit. To accomplish this, proceed as follows: Choose a plot of suitable size, and as near to the above-mentioned character as the limits of the place will admit of, prepare in the same way as recommended for rhubarb in the January No., page 17. This will make a good base to commence operations, when it is desirable to have the very finest prize quality, and an annual trenching and manuring will keep it up. Those who are satisfied with ordinary size and flavor will obtain such by simply ploughing, or trenching, and manuring, as for a crop of cabbages.

There are two methods by which a crop may be procured, viz: by sowing the seed the same season, or planting small bulbs of the previous year. The first is the best and least expensive, if rightly performed, excepting in those regions of country where the weather is extremely cool and wet, or subject to become dry and hot soon after the growing season commences.

Sowing the Seed.—Immediately when the ground is in working order after the breaking up of frost, fork over and loosen the soil well if previously prepared in the fall; and if not, trench and manure. Make all level with the fork or spade as the work proceeds; draw out drills with the corner of the hoe, one inch deep, and twelve inches apart. Sow the seed thinly, say one inch asunder; cover by treading in the sides with the feet. When the young plants are some three inches high, thin out to four inches apart, and at the same time take out all the weeds in the rows, when the scuffle hoe may be afterwards run between them, and all will be clean. And here I would take the opportunity of drawing attention to the desirableness and advantages to be gained by using this implement at all times while the weeds are small. In many places we see them allowed to grow until they entirely smother the young crops. When the mischief is done, and the expected produce has become considerably deteriorated, in fact, almost ruined, it is then thought to be about soon enough to eradicate them; the doing of which will occupy ten times more time than would have been required by an early application. Attention to this item will reduce the labor in a vegetable garden more than one-half, besides the advantage of an equal ratio of profit in crop. Nothing further is now required but an occasional clearing of weeds with the hoe, until the bulbs are ripe.

Planting Small Bulbs.—The object here is the obtaining of larger and better ripened bulbs, and is often resorted to in cool and wet climates where there is not enough solar influence to centralize the growth; and also in those countries where the commencement of summer is subject to regular droughts, and, consequently, the ripening is premature. In both cases the method is to be recommended, as the plant is partly developed to begin with, and only requires to finish out that extension, which, under more favorable circumstances, would be accomplished in one season. In most of our Northern States we have growing weather sufficient for healthy maturity, which renders this process unnecessary if the seed be sown early enough. To procure these small bulbs the seed should be sowed thickly on poor soil about the last week in April, and the plants allowed to remain somewhat crowded, by which minute size and early maturity is gained. When ripe, pull the whole up, lay them on the ground exposed to the sun for a few days, and afterwards remove to a dry but cool room till planting time. This will be in the following spring, as soon as the soil is in good state for working. Prepare the same as for seed; draw drills not more than an inch deep, and one foot apart; place the bulbs therein, and level the soil as the work proceeds. Do not cover more than is sufficient to retain the set in its place, for nothing dete-

riorates the form, size, and particularly the keeping qualities, more than covering up during growth.

There are many varieties of the class that is suited for general kitchen and market purposes, but nothing is to be gained by an extended list. The following, therefore, will be found to be the best, and give satisfaction:—

Strasburg.—Tawny, red, tinged with green; hardy; a good keeper, with strong flavor.

Globe.—Pale brown, globular, large; keeps well; mild flavor.

Deptford.—Pale brown, somewhat globular, solid; a good keeper; rather strong flavor.

Blood Red.—Middle size, flat, dark red; the best keeper; strong flavor.

White Portugal.—Medium size, white, rather flat; an early sort, with mild flavor; does not keep very long.

Silver Skin.—Pearly, whitish-green, below medium size; should be sowed thick, as it is best adapted for pickling.

Large Globe Tripoli.—The largest onion grown; globe-shaped, inclining to oval, light-reddish green; does not keep well; flavor very mild. This is the best variety for roasting; and, when properly cooked, makes a most savory dish. In such state, it is entirely free from the smell or taste which belongs to the other kinds, and may be eaten in reasonable quantity with impunity, by those who may have the most delicate digestion. In Portugal this sort is grown very extensively, and often, with a piece of wheaten bread, furnishes the breakfast of many of the rural peasantry. The Tripoli onion requires some little difference in the practical treatment, from what is hitherto mentioned. If possible, obtain the seeds imported from southern Europe, as they invariably produce the finest bulbs. Sow about the middle of September, and in those latitudes which are subject to severe frost, protect the young plants with glass frames during winter, in the same way as for cauliflower plants. When the severe weather is past, lift carefully, and plant singly six inches asunder, in rows twelve inches apart. Be careful to make the holes deep enough to admit the roots down perpendicularly, and do not bury the collar below the soil, but place it even with the surface. If the weather prove dry at the time of planting, or even afterwards up to the middle of summer, copious watering will make success more certain, and add very much to size and mildness of flavor. Generally speaking, with the ordinary modes of cultivation, this sort produces only "thick necks;" that is, a preponderance of stalk and leaves, without a corresponding ripening of bulb. If, however, the advice here laid down be followed, there need be no cause for complaint on this account. During wet and cool seasons, this deficiency of ripening is occasionally prevalent in all the kinds; the which may be remedied by bending over the tops a week or two previous to usual maturity, so as to partially break the lower base, by which the developing action is arrested, and the bulbs assisted in their lateral swelling.

When the tops of any or all of the kinds begin to ripen off, the bulbs should be immediately loosened from the soil; leave them exposed for a few days to dry, and afterwards tie them in "ropes," or spread on the floor of a dry and cool room. As they will bear almost any amount of frost without injury, there need be no care taken on this account.

Potato Onion.—This variety is distinct in habit from the other kinds. It differs in the producing of a number of offsets, or side bulbs, each of which, with good culture, is like to the one planted. The distance apart may be nine inches by fifteen inches, and the bulbs require to be planted deeper in the ground. The crop is also improved by covering up with the hoe some three inches during growth, from which peculiarity it is sometimes called the Underground Onion.

Welsh and *Tree Onions* are also distinct, but are only of use in very cold countries, and, consequently, not worthy of more than a passing notice.

To save seed, choose the handsomest bulbs that are true to character, plant one foot apart, and four inches deep, early in spring. When the flower heads are fully developed, tie up to small stakes, or fix a few low branches amongst the plants, which will prevent the wind or rain storms from breaking them. When the seeds begin to turn black, cut off the heads, lay them in a dry room for a time, when they may be rubbed out, and packed away in paper bags.

THE ROSE, AND ITS CULTURE.

BY JAMES S. NEGLEY, HORTICULTURIST, PITTSBURG, PA.

"While spring with lavish flow'rets glows,
From the gay wreath I pluck the rose."

THE exquisite beauty and delicious fragrance of the Rose has earned for it the title of "Queen of Flowers," and encouraged its culture since time immemorial. The old Emperors of Rome soothed their slumbers by its odors, and strewed its leaves beneath the feet of their honored guests. Anacreon and Virgil wove its charms into their love ballads, and dedicated its origin to the gods. It was an ancient custom to bind a chaplet of its chaste buds on the fair brow of the bride at the altar, as an emblem of her innocence and devotion. Neither were its flowers forgotten in affection's offering at the slumbering place of the cherished dead. Who is there of the readers of the *Horticulturist* who does not mingle the Rose amongst the associations of youthful days. By common consent, no home or pleasure ground is complete without it. It is not even excluded from the natural flora of any of the earth's divisions. I have often stopped to admire its wild simplicity amidst the gorgeous splendor of the tropics, and brought home its yellow-eyed blossoms as souvenirs of the far West.

Within the last few years, the florist's skill has been well rewarded by many remarkable varieties. The flowers are more double and perfect; the shades of crimson deeper and more vivid; white is blended with orange, and the habit of the plant much more elegant. To choose the best from the long lists offered, is no easy task, without attempting to disparage the old favorites. I shall only give a list of the best *new* sorts, and refer briefly to their proper culture.

HYBRID PERPETUALS.—This class is the most desirable and magnificent of Roses—perfectly hardy, flowering freely from June to the end of October. Plant in strong clay loam, enriched with well-rotted manure; prune last year's wood back one-half; thin out weak shoots, and remove the flowers when they fade.

Adelaide Fontaine—deep pink; large and beautiful.
Alexandrine Beechmeteff—bright rose; very full.
Agustie Mie—light rosy pink; very fine.
Arthur de Sansals—dark velvet crimson; superb.
Bacchus—crimson scarlet; fine.
Baronne Heecheren—bright pink; very large and beautiful.
Colonel de Rougemont—deep rose color; splendid.
Chipetowzikof—deep crimson.
Comte de Nantieul—deep rose; fine shape.
Duchess of Norfolk—vivid crimson; profuse bloomer.
Duchess de Cambaceres—bright rose; flowers late.
General Brea—fine, deep crimson.

General Bedeau—bright red; compact and double.
" *Castellane*—bright carmine; superb.
" *Jacquiminót*—brilliant crimson scarlet; a first-rate new rose.
" *Simpson*—bright carmine; full and large.
" *Pellisier*—pale rose; fine.
Graziella—brilliant pink; exquisite form.
Imperatrice des Français—pale flesh; very double and fine.
Jules Margottin—bright deep rose; highly perfumed, and one of the best roses in cultivation.
Lord Raglan—deep velvet crimson; splendid.
Louis Peyronny—bright pink; very fine.
Madame Domge—deep, rosy pink; superb.
" *Guinnoisseau*—deep lilac rose; very double.
" *Knorr*—pink, with rosy centre; fine.
" *Masson*—shaded crimson; large and double.
" *Vidot*—light pink; beautifully cupped.
" *Theodore Martell*—deep flesh; fine shaped.
Mathurine Regnier—pale rose; remarkably fine.
Mere de St. Louis—delicate flesh; showy.
Nœmi—rosy pink; fine.
Prince Leon—vivid crimson; a superb new rose.
Paul Dupuy—velvet crimson; very fine.
Souvenir de la Reine d'Angleterre—large, bright rose; splendid.
" *de Levison Gower*—deep crimson; large and fine.
Triumphe de l'Exposition—beautiful, deep carmine. (*To be continued.*)

FRUIT AT THE SOUTH.

BY J. VAN BUREN, CLARKSVILLE, GA.

It is but a few years since our people became disabused of the idea that the pear, apple, and some other fruits, could not be successfully raised in the more southern States; yet, notwithstanding this once prevalent opinion, few of the Northern States can boast of a better or larger variety than Georgia. We now have over one hundred varieties of choice, and some of them superb, Southern seedling apples, whose character has become established and well known. Many of these were originated by the Cherokee and Creek Indians, who, it appears, were entirely ignorant of the process of propagating by grafting, but depended upon the sowing of seeds, which were collected in their intercourse with the whites. When the Indians left the country, their lands were occupied by our citizens, and since the enthusiasm for cultivating fruit has become awakened within the past ten years, these desirable varieties have been made public.

Amongst our best winter apples are the Equinetely, Tillaquah, or Big Fruit, Chestoa, or Rabbit's Head, Elarkee, and Cullawhee, all of Indian origin—the latter the largest apple known. Then we have Nickajack, Camak's Winter Sweet, Hoover, and Yahoola, with a host of quite modern date. Equinetely, Tillaquah, Nickajack, and Camak's Sweet, stand unrivalled in size, beauty, flavor, and keeping qualities. Being familiar with the best Northern varieties, such as Esopus, Spitzenberg, Newtown Pippin, Baldwin's Vandervere, and others, we do not hesitate in placing the before-mentioned Southern varieties superior to them in all respects. Amongst our summer and autumn varieties, the Julien, Batchellar, and Dichasoon, stand pre-eminent.

Pears, so far as tested, maintain as high a character for excellence here as in any of the Northern States or Europe. We have a number of Southern seedling varieties with excellent characters, but not having fruited them myself, will forbear giving an opinion until I have done so.

The peach is almost indigenous to our country, springing up by thousands in fence corners and hedgerows, and having no diseases here except the attacks of the borer, who, however, does but little injury, as the trees generally grow so vigorously that he cannot kill them; for while he is eating on one side, the tree is gaining on him on the other.

The "yellows" is unknown in the Southern States. I have been a resident of Georgia some eighteen years, and never saw a single case of it, and presume it does not exist here at all.

Your Northern peaches will not compare favorably with the same kinds grown here; besides, we have many excellent native varieties unknown at the North and West. Our negroes, I think, would hardly eat your peaches, for they eat none poorer than Early Crawfords or Late Admirables. I have little doubt it would be to the interest of your large cultivators of this fruit to procure their trees from the South, as they would prove to be more durable and healthy than those raised at the North.

So far as we have learned from our correspondents, there appears to be a peculiarity attaching to our Southern apple-trees which we were not prepared to expect, which is, that they withstand the severe cold of the North better than the Northern varieties. This fact has been communicated to us from the northern portions of Indiana and Kentucky: that while the Southern varieties escaped injury by freezing, Northern trees were cut down by it. Should this property prove uniform under further experience, it will be a somewhat difficult phenomenon to account for.

With all our advantages of climate and soil to the successful cultivation of all the fruits, we have a serious drawback, which is the universal prevalence of insects which prey upon them. We have ten where you have one. Curculio, corpocapsi, and other fruit eaters, swarm here, and from whose ravages it is difficult to rid ourselves; not these alone, but, in years when peaches are abundant, the honey-bees take to eating them by thousands, on the juice of which they get drunk, and, like human rowdies, do no work as long as their spree lasts, which is as long as they can find peaches to eat. Whether this is caused by the prussic acid they contain, or by alcohol, I do not know; probably, however, by the latter, for so soon as they have eaten a hole in a peach, fermentation commences. The consequence is, that when we have an abundant peach crop, we get but little honey, for drunken bees are like drunken men; they stagger about, make a great fuss, and do nothing.

Peaches and pears now in full bloom, with the prospect of a good fruit crop, although we may have subsequent frosts, and disappoint our hopes.

JAMES MATHEWS' CURCULIO REMEDY.

A COMMUNICATION from Mr. James Mathews (now of Knoxville, Iowa), relating to his remedy for the Curculio, is too lengthy for our limited pages, and as it still does not reveal entirely what the secret is, we must be excused for giving only the substance of what he now relates. Reasons of his own induce him still to decline to make his "discovery" public. The committees to whom it was confided were

unable to agree, and never formally reported. A new field of cultivation in Iowa will afford him opportunity for further experiments.

A Mr. Hobbs assures him he has been successful, and is willing so to state it to inquirers; residence, Randolph, Crawford County, Penn. He thinks improvements may be made.

Mr. M. has studied the "Turk's" habits, and he is satisfied that "*the Curculio does not migrate during its depredating season.* It fixes its abode under the tree; it rises from thence by the aid of its wings (which cannot be seen by the naked eye except when they are protruded for this purpose) perpendicularly to the branches holding the fruit. When the eggs are deposited, it descends again to its lodgment or burrow, and so on from day to day. That it cannot fly horizontally, I do not maintain; I only allege that, during its laying season, it remains stationary, except as previously stated. It does not eat the fruit, the deposit of the eggs being its object;" and all theories, he thinks, point to this fact.

A pavement as extensive as the limbs is a remedy, as it leaves no burrow. This does not prevent the insect from flying from a contiguous tree, and depredating, if such were its habits. Let a pig-pen be built around as large as the pavement would be, and a single hog will save the crop; not because the hog could prevent the insect from flying from an adjacent tree to the one inclosed, but because his habitation would be destroyed by the rooting. Again: on a given tree overhanging a pond or stream, the result is the same.

In the *Horticulturist* for November, 1856, Mr. Gardener, of Virginia, gave a remedy which, Mr. M. thinks, assists his theory. It was to remove the soil from around the tree as soon as the insect is noticed or begins to work; taking the earth five inches deep, it was wheeled away and scattered about, thus destroying (says Mr. G.) the enemy. But Mr. Mathews thinks he gives an erroneous reason for a veritable remedy, and protests against the conclusion; for a wheelbarrow load of young tortoises, whose shells had become perfectly hardened by age, could be as easily destroyed in the same way. The enemy was only removed from their rendezvous, and their habitation destroyed, the quarters from whence alone their work is carried on; *they* were not destroyed, and if they could fly, they would have returned. A plank floor, cement floor, and shaking into sheets for small trees—all these answer to a limited extent, but these are too troublesome and expensive, and a hog is offensive; but Mr. Gardner's is, according to our correspondent, the best plan, and will succeed. Apply it to alternate trees, and the great question will be in a better stage for decision, and the insect, if it does not fly from tree to tree, may be destroyed in many ways.

Here Mr. Mathews leaves us still in the dark as to what he really proposes. He wishes, however, to suggest to those who have been informed of his plan, that where the depredators are very numerous, it has been found necessary to make the application (whatever it may be!) a second time.

We abridge Mr. M.'s remarks to keep the subject alive, and add our regret that the public are not yet made acquainted with "*the* remedy." Let us hope; and, meantime, let experimenters follow this hint (all we can get), and remove the earth five inches deep.

A new light, however, may be thrown upon this subject by the researches of Dr. Fitch, published in the recent volume of the *Transactions* of the New York Agricultural Society. He says: "Although this insect and its destructive habits have been so long known, we to this day remain in ignorance of its abode and condition during half the year. Most persons have supposed that some of the worms were so late in leaving the fruit that they remained in the ground during the winter, and from these come the beetles which appear in the spring; and

several of the remedies have been based upon this theory. But that a whole generation should be brought forth abortively each summer, to perish without making provision for a continuance of their species, and that their perpetuity should be left to such a mere accident as a few individuals casually belated in coming to maturity, would be an anomaly wholly unlike anything which we meet with elsewhere."

Dr. Sanborn has asserted that at no season do they remain longer than six weeks in the ground, and that neither they nor the perfect insects lie under the ground during the winter. Dr. Harris thence inferred that those beetles which come out the latter part of summer lurk in some place not yet discovered during winter, to come abroad again in the spring, and deposit their eggs in the fruit. Dr. Fitch thinks their lurking-place is ascertained. On a small branch of a pear-tree were found, in 1856, about thirty short, curved, or crescent-shaped incisions in the bark, similar to those made by the curculio upon fruit. On raising the bark, several little worms (commonly six in number) were found torpid, and lying in a row, side by side, with their tails toward the crescent, and their mouths in contact with the soft, green pulp of the middle layer of the bark, ready to eat their way onwards as soon as the warmth of spring awakened them again to activity. They had evidently come from eggs which had been dropped into the curved incision, were without feet, transparent, and pale yellowish, resembling little specks of gum or turpentine. It would seem that those insects hatched the latter part of the season, finding no fruit in which they can deposit their eggs, are obliged to resort to the smooth, tender bark of the branches of fruit-trees, and the worms in these eggs repose in, not under, the bark through the winter, and produce the spring beetles which annoy the cultivator so sadly.

If this opinion (says the doctor) as to the winter quarters of the curculio proves to be correct, it may lead to most important results, as he thinks that, allowing for all casualties, it is probable that a hundred beetles might have been matured from the short piece of limb examined, and which was only four and a half inches long, and less than half an inch thick. The worms were only covered by the epidermis and thin outermost layer of the bark; so that soft soap, or some other alkaline substance, applied externally there is little doubt would penetrate through this covering, and destroy the tender brood.

If the winter retreat of this enemy can be thus discovered on trees whose fruit has been destroyed, by the mark he places upon the bark, an effectual remedy may be applied with greater ease. Dr. Harris propounded this theory in his first edition, but abandoned it. Dr. Fitch now resuscitates it, and we give it in the hope that it may be verified by careful observers the coming plum season.

THE PRACTICE OF PRUNING.

The practice of pruning receives the increased attention of Dr. Lindley in his new edition of the *Theory of Horticulture;* some of this, as it illustrates principles, we shall copy. Though, in this country, we are not given to training the pear against walls, the author thinks the horizontal mode answers well for this fruit. "When the young tree is planted, head down the shoot to a foot or four courses of bricks above the level of the ground. Train a shoot upright, and one right, another left, at an angle of 45°; if these prove unequal, in point of vigor, depress the strong, and elevate the weak. Lower them both, about the middle of September, to the horizontal line represented by the joint between the fourth and fifth course of bricks. Their origin on the stem was somewhat below this line,

and therefore they must ascend a little to reach it. This, as regards the lower branches, is an advantage; for the sap flows more freely into limbs thus diverging than it does when constrained to proceed from the stem directly at right angles. The lower branches being apt to become the weakest, may be afforded this advantage, whilst, towards the top of the wall, the branches may be made to proceed horizontally immediately from the stem.

Spur of the Pear-Tree.

"The tree having now a central upright shoot, and two horizontal side shoots, shorten the latter at the winter pruning according to their strength; if weak, nearly to their bases; the upright one to the fourth course of bricks above that to which the first shoot was cut. Train the shoot from the uppermost bud, in a perpendicular direction, and one on each side as before. Proceed thus to obtain an upright and two horizontal branches, every year, till the tree reach the top of the wall. When the horizontal branches are sufficiently strong, they may be trained along the courses of bricks without shortening.

"If properly managed in summer, fruit spurs will begin to form along these branches. The accompanying cut represents a spur in which *a* is progressing to form a blossom-bud, whilst *b b* are already blossom-buds, known by their plumpness; and from this period of the season such buds exhibit signs of active vegetation; but in *a* the surrounding scales remain undisturbed till late in spring. The scar at *c* is where a portion of spur that has borne fruit has been cut back; and, at the winter pruning, after *b b*, have produced fruit, they must likewise be cut back to others likely to form at their bases as they did at the base of *c*."

The pruning of the pear-tree trained against an *espalier* differs in nothing from that which it requires when trained against a wall, except that the spurs of espalier trees need not be so much shortened.

Next month we shall give Dr. Lindley's mode of pruning the peach.

ANOTHER WORD FOR EVERGREENS.

BY H. W. SARGENT, WODENETHE, FISHKILL LANDING, NEW YORK.

I CANNOT allow the excellent article of the Rev. Mr. Gridley, in the April number of the *Horticulturist* (entitled "A Word for Evergreens") to go down to posterity without adding another word on this subject.

Mr. Gridley lets us off with *only* nine or ten varieties; and although he is will-

ing to allow that "by dint of draining and blanketing" a few shivering adopted citizens may be carried through several winters, yet the conclusion one comes to from his article is, that we had better let these foreigners alone, and fall back upon the few varieties he enumerates. I am willing to grant that many varieties which, a few years ago, we were in hopes to domesticate here, have disappointed us, and can only be grown in certain situations, and, even then, with but indifferent success.

The Deodar Cedar, Cedar of Lebanon, Cryptomeria Japonica, Araucaria Cunninghamia, and a few others, can only be grown in the shade of an Evergreen wood; they certainly do not thrive in an open, exposed lawn. But Mr. Gridley must not cut us off from a great many varieties which I pronounce unqualifiedly *perfectly hardy* in this latitude, viz:—

Pinus ponderosa.—I have had this out, unprotected, eight years; it passed through those trying winters, 1855–6, when the common road-side Cedars were destroyed, and White Pines and Hemlocks badly injured; and yet this was untouched.

Pinus Cembra, P. Laricio, P. Montecola, P. Pyrenaica, P. Pumilo, P. Lambertiana, P. Excelsa.—What can be more hardy than these Pines? I have never seen them injured by cold, though the excelsa is sometimes disabled from excessive growth.

*Picea Frazerii, P. Nobilis, P. Nordmaniana, P. Pichta.**—These four are every bit as hardy as anything Mr. Gridley mentions, and certainly nothing can be finer than any of them. P. nobilis is, in England, all that Mr. Buist says of it in his article, last spring, on Elvaston Castle. We only want time to make it as fine here.

P. Nordmaniana is a superb tree; in my judgment, by far the finest of the Silver Firs, so far.

Abies Clanbrasiliana, A. Elegans, A. Pumila, A. Compacta, A. Pygmea, A. Hudsonii, A. Orientalis, A. Cephalonica, A. Pinsapo.—These nine, with me, never suffer, and I am sure the years 1855–6 were tests of their endurance as well as mine; for I lost many things which had done perfectly well for many previous years.

Cephalotaxus Fortunii, Taxus Japonica, Torreya Taxifolia, a dozen of the Junipers, nearly as many Arbor-Vitæs, it strikes me, are, beyond doubt, hardy. I never "drain or blanket" these, and yet they pass unscathed through our hardest winters. The Torreya gets its last buds a little whitened, but not more than the Red Cedar often does.

I don't know anything prettier or *hardier* than Thujeopsis Borealis—a variety of Thuja from Baffin's Bay—or the variegated Thuja or Thuja filiformis (the Weeping Thuja); and yet all these are perfectly hardy.

Mr. Gridley says Providence wisely limits the growth of the Rhododendron, Holly, and Laurel, of England, to countries where little snow falls. But let me ask him, where do (or where did, rather) the English get these plants? One Laurel from Portugal, the other (Laurus nobilis) from Italy, and the Rhododendron from *America!* I have had large masses of Rhododendrons many years, and they have never yet suffered from snow, though I have seen my beds covered two feet deep; it is the *sun*, not the snow, which is the enemy of the broad-leaf Evergreens.

And *finally*, do NOT "feed your plants" (your Evergreen plants) "*well.*" On the contrary, if you have any doubt of the hardihood of a plant, *starve* it; let it

* Mr. Gridley is in error in calling this the Cracovian Juniper. It is the Siberian Silver Fir.

make little growth, but well ripened wood, and it will withstand many more degrees of frost than the same tree with a luxuriant growth; beside which, the tree will be handsomer and better furnished. The fault of Pinus ponderosa is a too luxuriant growth of three or four feet; consequently, the tiers of branches, being separated to this extent, have a naked, illy-furnished look; while an upright growth of twelve to twenty inches, produces a thicker and more condensed tree, with less daylight and nakedness through it.

The reason why the Cryptomeria and Deodar Cedar are not more hardy, is because of their luxuriant and late growth, growing quite late into the autumn—their wood being consequently immature, and not ripened; when frost comes, they suffer as a natural result. Plant these trees in poor, thin soil, and they will stand much better; give them the additional advantage of a wood over them, and (with me) they stand perfectly. I have a Cryptomeria six or seven years planted which never even browns; but it is in a poor, slate soil, and has never been stimulated, and never grows over three or four inches in the season; consequently, the wood being well ripened, the tree is in a condition to resist a very low temperature.

In conclusion, I would add that the trees I enumerate above are, with me, as hardy as the Norway Spruce. There are many more I would advise the amateur to plant, that, in proper situations, do admirably well; but I do not wish to alarm Mr. Gridley too much with too many varieties. I think the tendency of his article would be, to make planters begin where their fathers stopped many years ago. I may err the other way, but I honestly believe that everything I have mentioned may be safely planted as far north as my latitude.

EUGENIA LUMA

Is the name of a most superb plant figured in the last number of Curtis's *Botanical Magazine*, conducted by Sir William Hooker, who says of it: "A charming shrub, from the open border of the nursery of Veitch & Sons, who introduced the species from Chili. It is quite equal in beauty to our common Myrtle, and no more need be said to recommend it as an ornamental evergreen shrub for our gardens. It blossoms in the summer months, when the branches are literally loaded with the white blossoms, almost concealing the copious foliage; the leaves, indeed, are not much unlike those of the common Myrtle, but broader, and suddenly and sharply apiculated. It inhabits the colder parts of Chili, from Conception to the island of Chiloe, and Valdivia, and hence its hardiness may be accounted for. It is called the 'Arroyan' by the natives."

Dioscorea Batatas.—If you could conveniently call on us, we shall feel pleasure in showing you a tuber that at the present time weighs five pounds, and measures two feet four, and one-half inches in length; its growth in that direction was to some degree checked by its reaching a bed of gravel. We must observe, however, that this one has been three years in attaining the size just mentioned, but we have others of one year's growth, four of which, out of the few we have left, weigh twenty-four ounces. With regard to its quality as a table vegetable, we think that if it was mashed, after being properly cooked it would be difficult to tell the difference between it and the potato, except by the color which, in the Dioscorea, is whiter. We intend growing a few during the forthcoming season, and have made a memorandum to send you the result of our experience.—A Gardener in *London Chronicle*.

EDITORS TABLE.

CARD.—The Proprietor of the *Horticulturist* resigns, with this number, his connection with the work, passing it to C. M. Saxton, of New York (the well known publisher), who will bring to the work the advantages of twenty-six years' experience in publishing. He will be able to devote to it an amount of time and personal attention that the undersigned found impossible, in consequence of engagements in a different line.

The *Horticulturist* will be hereafter issued in New York, under the best auspices for the subscribers. The same Editor will continue to give it undivided attention. I ask for my successor in the publication a continuance of that patronage and confidence which have been so kindly and uniformly extended to the work.

ROBERT PEARSALL SMITH.

PUBLISHER'S CARD.

A LONG connection with the public as a publisher, and especially of agricultural and horticultural works as well as an innate and fostered love of these topics, has induced me to become the proprietor and publisher of the *Horticulturist*—a work which has long maintained a prominent place in the affections of a large circle of patrons distributed throughout the Union, and extended beyond its boundaries. It is my confident belief, that by devoting almost exclusive attention to the interests of this publication, its influence for good may be greatly extended, and I enter upon this career with confident hopes of success.

The interest in horticulture having greatly increased during the publication of this periodical under the successive editorial management of A. J. Downing, B. Munn, P. Barry, and its present Editor, J. Jay Smith (who has carried the work through three prosperous years of its history, and will retain his connection with it), we hope that this popular journal will now enter upon an enlarged sphere of usefulness.

Subscriptions and all other business communications should be addressed to

C. M. SAXTON, *Publisher*,
25 *Park Row, New York.*

N. B.—All outstanding debts to be settled with the former proprietor.

TO CONTRIBUTORS AND EXCHANGES, ETC. ETC.

Communications, letters, catalogues, periodicals, &c. &c., intended for the perusal of the Editor, should be uniformly directed to the HORTICULTURIST, *Germantown* (*Philadelphia*), *Pa.*

Agricultural Editors.—It is proposed that a convention of Agricultural Editors shall be held some time in June next, and New York is suggested as a suitable point of meeting. Good may very probably result from such meeting.

Spring.—If our readers enjoy spring as we do, they will now be looking out for its approach, though early May, in this latitude, is scarcely the month the English poets have described. We do have fine glimpses of progress, however, and must be content with what we get for a week or two.

"And see where surly Winter passes off
Far to the north, and calls her ruffian blasts;
His blasts obey, and quit the howling hill,
The shattered forest, and the ravag'd vale;
While softer gales succeed, at whose kind touch
Dissolving snows in livid torrents lost,
The mountains lift their green heads to the sky.
As yet the trembling year is unconfirmed,
And Winter oft at eve resumes the breeze,
Chills the pale morn, and bids his driving sleets
Deform the day delightless."

But the insects that people the sun's beams, the honey bees extracting liquid sweets from opening buds, the butterfly expanding its wings to the idle air, the thistle's silver down wafted over summer seas, airy voyagers on life's stream—all, all, are soon to awake to life, inhaling the fragrance of a thousand flowers, and drinking pleasures under halcyon skies.

"Around us the bees in play flutter and cluster,
And gaudy butterflies will frolic around."

Pear Culture.—The question of profit in the cultivation of any article, whether it be grain or fruit, is the one to which interest mostly attaches. In the present number, our friend, Lewis F. Allen, in his peculiarly forcible way, and with an array of strong arguments, attempts the solution of the pear problem in a mode which will be received by some as truth, by others with grains of allowance. If pear culture on a large scale, as a dependable crop for the support of a family, is not to be recommended, this fruit is too popular and too excellent to be allowed to be neglected; it is a very good and sometimes very profitable addition to market farming. A few trees, in situations where they are in the way of nothing else, will often give clever returns in money. They ought to be of *good looking* kinds, and the fruit should be exhibited in its best state to the purchaser at the moment almost that it is fit for consumption. In gardens of even small extent room can be found for a few pear-trees, which may be so planted as to cast little or no shade on vegetable beds, or in corners where they can receive proper attention. No garden is complete without them; no family in the country or a village should be contented unless they can have a share of this fine fruit, just as everybody has a grape-vine. In situations where the raiser can *retail* his product, we can believe in any amount of profit which has been received by successful cultivators around Boston, in which latitude Mr. Allen admits with perfect candor that large profits, the result of great success, have been realized.

We think that one or two elements in this controverted matter have been too little taken into the account, and may be referred to as points that are yet to be more fully understood. In the *Report* of the Massachusetts Horticultural Society, which we abridged in February, page 89, it is stated that a grower has ready sale for those pears having a russety skin, while those of green skin could not be disposed of; to this end he has to prepare them for the customer's eye by a sweating process there described; "while Mr. Gordon's Bartletts were yielding him *ten dollars* a bushel, other wagons, by the side of his, had pears of

the same variety, equally as large, but, in consequence of retaining a green skin, were offered at *three dollars* a bushel." Here is testimony that is sufficient to account for all the differences of opinion as to profit. If one man can get ten dollars a bushel, and his neighbor only three, while the difference of the cost is so small as in this sweating process, the whole question of profit turns upon one circumstance. Testimony delivered before a jury, as it would be given by one vender, would create a verdict of *profitable*, while the whole would be overset by the sworn to words of the next neighbor with the very same fruit, and the jury might say *unprofitable*. Our readers must take these things into consideration; pear culture is advancing; better kinds, better understood trimming, keeping, *and now by sweating*, will give to many new cause for perseverance, notwithstanding the discouragements of others, whose opinions, recorded in our columns, it is equally the duty of an impartial journal to promulgate, with the results obtained by others more favorably situated. Colonel Wilder assures us that in his neighborhood nine hundred dollars have been received from the produce of an acre and a quarter of pears. This extraordinary result it should be the duty, the pleasure, and the amusement of others to emulate. The secret, if there were any, is as well known, thanks to our pomologists, as the best mode of cultivating any other fruit; trees in millions have been set out in every direction, but we hear of no similar profits except near Boston. Have the Bostonians been educated to love pears better than any other citizens, so that they will give higher prices than are to be had in other places? Is it the sweating? It would appear that this is the matter, for the difference *in Boston* between a bushel of sweated pears and a bushel of green-skinned fellows, is so great as to be quite amazing. We can see, in imagination, the torture of the owner of the green-skinned Bartletts as he counted his three dollars against his neighbor's ten, the name of the latter Mr. John Gordon, of Brighton; that of the owner of the unsweated article not given.

Time enough has elapsed, trees enough have been planted, exhibitions enough have been made, and *our parish* is yet as a whole unpeared. The amateur and small gardener can generally enjoy this fruit in moderation, but for profitable culture, in our own neighborhood at least, we have yet to see it. In Dr. Warder's book he asserts that the Osage orange does not sucker; here it does; in Ohio it does not exhaust the neighboring land; here it does; perhaps in Ohio the soil is so deep that the roots go downwards, while here they seek pasture near the surface. Such differences may and do exist; let us therefore cultivate in each climate what that climate is adapted to, and above all, let Boston send this way some of her fine pears, for Philadelphians, as a people, have yet to know how a good pear tastes. They will be contented with the three dollar Bartletts, as ten dollars is high, and the freight is to be added.

In allowing both sides of this interesting question to be discussed in our pages, we can have no object but the elucidation of the truth. Whatever may be found regarding the *profitable* culture of the pear, one fact is very conspicuously obvious, and that is, the amateur and the gardener and farmer are materially benefited by the knowledge of and the introduction of the best kinds, and how to cultivate them. The mania which has raged on the subject has thus had its advantages, and it will not be *laid* till we know all about it and the climates which are to supply the more unproductive districts.

We shall insert next month an essay on Dwarf Pear Culture from an English point of view, by our correspondent T. Rivers, of Sawbridgeworth, Herts, highly eulogizing the quince stock for *garden* culture.

Luck.—There are believers, even among gardeners, in luck. "Oh!" says one, "he had a good chance;" another declares his successful friend was "a lucky fellow." The "luck" which has made the fortune of the best gardeners is no luck at all. It is knowledge ac-

quired by hard study and hard labor; by reading, and avoiding the dram bottle; by keeping a steady eye on the results of experiments aided by the knowledge of written materials. What "luck" can a gardener have who prefers idleness to botany; what hope can he ever entertain of rising to independence, if he cannot distinguish one species of plants from another? He must always be at fault, unless he knows something more than routine cultivation, and can adapt his tactics to new circumstances, or give himself a reason for his acts. "Luck" is a term to be expunged from every vocabulary except that of the gaming-table or the turf. In the language of Dr. Lindley: "Our personal experience in this matter now extends over the best part of half a century, during which time circumstances have brought within our knowledge the private history of most of the successes and failures which in that period have deserved notice among gardeners, and we feel entirely justified in saying that those who have risen have had to thank their own superior knowledge, the fruit of superior industry; while those who have fallen can only blame themselves for that want of knowledge and determination to succeed, which, in this world, are indispensable in all classes where mental power is necessary, and from which political influence is withheld."

Were any proof of the justice of this opinion needed, it would be found in the skill of those eminent men in the horticultural world who, by diligent study, have privately, and in spite of difficulties, acquired what, in the absence of such energy, would have been denied to them.

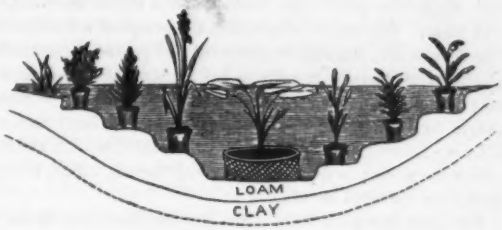
THE GARDEN AQUARIUM.—There are thousands of situations where a supply of water, either from a spring or a running brook, may be introduced into a garden or grounds with great effect.

"Mildly and soft the western breeze
Just kissed the lake, just stirred the trees,
And the pleased lake, like maiden coy,
Trembled, but dimpled not for joy;
The water-lily to the light,
Her chalice reared of silver bright."

In most suburban gardens there is sufficient space for a small aquarium; we know of several that are supplied from the village water-works, where a tiny jet is constantly playing, and refreshing the ferns and other moisture-loving plants dispersed among rocks and stones, goldfish disporting in a rustic basin below. If a space of only eight or ten feet diameter can be spared for the purpose, it will greatly add to the gayety of the scene from the windows. A circular pond of five feet in diameter may be surrounded by a border of rock-work of twelve or fourteen inches, the dark stones being merely loosely laid on an even surface, and beyond this a rim of turf two feet wide. The pond should be well puddled with clay, and over the clay a stratum of loam and sand; the rock-work should be formed of dark stones of small size; a light fence of iron-work or thick wire surrounds the whole, and on the turf about eight or ten standard roses should be planted so as to form a ring, the little fountain throwing its jet from the apex of the central rocks (stones). The stones should be planted with one or two bushes of recumbent juniper; periwinkle, lycopodium, stone crop, ferns, and some showy perennials, may be set in the crevices. The beauty of this little collection far excels a parterre, and stands out brightly against the evergreens beyond.

A more extensive garden aquarium may be introduced at the base of a sloping bank, beyond which a mass of shrubs and trees secures shade and coolness to the lounger, and completes the picturesque character of the scene; it must be removed some distance from the house, deriving its chief beauty from repose, and the apparent absence of human dwellings. In such a scene, rustic arbors and seats, old tree stumps, crowded with mosses and

ferns, are suitable ornaments, while the rockery itself may be converted into a garden for Alpine plants and ferns, the portions sloping towards the water being planted with marshy and aquatic plants, revelling in moisture under the shadow of alders and willows. An island and peninsula should not be attempted, unless the water covers a large space, and has its dimensions somewhat concealed by trees. It must be constructed according to correct principles to insure success; a concave hollow must be dug, of the needful dimensions, sloping steadily from the outer rim to a depth of not less than six feet in the middle. Over the bottom must be placed a layer of puddled clay, six to twelve inches in thickness; above the clay, a layer of rich, sandy loam, or well-tempered soil from the bottom of a pond, must be arranged in circular terraces, like the seats in an amphitheatre, so as to form a series of shelves of various depths, from the margin to near the centre. On these shelves may be planted the aquatics, which are intended to be grown in the water. Thus you can place roots at various depths, so as to submerge each sufficiently, which you could not do on a slope, the pots being of course removable for renewal or change of plants, or during severe weather. In any case, the bottom must be of well puddled clay, and the mould above it a strong loam, with a surface of sand and pebbles. No one should undertake such a work unless thoroughly persuaded that he has force enough in himself or his assistants to keep it always in the best condition. Our engraving gives a sectional view of such a construction.



Grapes.—A letter from Dr. C. W. Grant says: "We have now five varieties of grapes that are fully equal to the best five that are grown in the open air in the vicinity of Paris; to develop their excellence fully, they require the care and skill which those of Paris receive. Rebecca, treated on the 'Thomery' plan, would not be inferior to the Chasselas in any respect, and Delaware would equal the Frontignans in all respects except size, which, to my judgment, is saying as much as we know how to say in praise of a table grape. The Black Hamburghs, for size and productiveness, and as a market fruit, deserve the eminence generally awarded, but, measured by excellence of flavor, they must fall below the Grizzly Frontignan.

"The great excellence of the Herbemont is known to but few, and the Lenoir is scarcely inferior, and is two weeks earlier in ripening. Of the Diana, it is superfluous to speak; when badly treated, it exhibits but little of its high character, which, under favorable circumstances, leaves little to be desired in a hardy out-of-door grape."

"The doctor adds: "In January, my propagating houses were burned, and nearly all the cuttings of grapes destroyed; so I shall be delayed in giving a full supply of vines to the country, which is a disappointment to me. One of the houses was a new one—one hundred feet by twenty-six; it stood but twenty-four hours after completion." The doctor still advertises a fair stock, however.

New York State Agricultural Transactions.—Mr. B. P. Johnson (the able Secretary) has placed us under obligations for a copy of these valuable *Transactions*.

In the first article of this number will be found some of the reasons why *books* were for-

merly scouted by farmers. "Book farming" was a term of reproach in former days. *Now* how stands the case? The books are the choice receptacles of the experience of science and labor. The man of science and the practical workingman associate for mutual benefit. The results are, drainage is practised; improved implements are introduced; insects are studied and destroyed; colleges are founded, and chemistry, &c., taught; educated labor stands pre-eminent among the arts; the farmer values the library; new and better grains are sought for; our people test the every form and combination of the mechanical powers to till, reap, harvest, or fell the forest. Contrast this with the idle dozing of the Spanish race, where the plough in use might be recognized by Adam, if he should revisit Spain or Cuba, as the one invented by him!

New York is a great State. She has excellent men on her soil, and her *Transactions* are very choice reading. Dr. Fitch continues his contributions on insects, which are now indorsed by the approbation of the scientific men abroad.

Concord Grape.—Mr. Samuel Miller suggests that the only way to reconcile conflicting opinions regarding the Concord Grape, is to suppose there are two kinds called by that name. It is possible; and those having information on the subject will do a public favor by communicating the same.

Patent Tree Protector.—The agent of this tree protector has exhibited a model of the apparatus intended to prevent the ascent, on the body of the tree, of the caterpillar. It consists of a varnished cotton cloth shield, in the shape of an umbrella, divided into two parts, to enable the operator to fasten it round the body of the stem; these two parts are joined by a tin catch and a rim, which go round the whole apparatus. Inside of the rim, and on the edge, is a tin trough, to be kept filled, or nearly so, with oil or turpentine. The insects ascend the body of the tree, are stopped by the projecting umbrella, when they retreat down to the oil reservoir, and are caught in it. The apparatus is simple and effective for insects that invade trees by ascending the stem. The patentee is Josiah Foster, Sandwich, Mass. Agent in Philadelphia, Wm. Denslow, 221 S. 5th St.; and he has the town and county patents for sale.

Mahonia Japonica.—This is one of the loveliest new plants, perfectly hardy, and recently introduced from Japan. It has a large leaf, and fine flower. It may be seen both at Mr. T. Meehan's, Germantown, and Mr. Buist's. A valued correspondent (Mr. W. N. White, of Georgia) writes us: "Just now, my great favorite is the Mahonia Japonica. My best is some three feet high, covered by thousands of small, golden bells, springing out from the evergreen foliage, and what a lovely, cheerful green it is!—a most attractive sight. What an improvement on the aquifolia!" It is, indeed.

New Pole Bean.—Mr. White forwards us a new pole bean. He says: "I call it the White Prolific (not White's). Our country people call it the 'Flat Horse Bean.' It will furnish you with string beans as abundantly as the Lima will with those to shell; stands the heat perfectly well, and the pods are as tender and brittle as could be wished. It agrees perfectly with our dry, warm summers, and will succeed admirably at the North. It resembles the Dwarf Bean, or Royal Kidney, and when ripe the fruit is excellent for winter use." Mr. White adds, judiciously: "The Lima Beans do not succeed in many gardens, because planted too thickly; they do best in single rows, and where otherwise, five feet by two and a half is near enough to bear freely, and the space between can have a crop of early potatoes, &c., taken off from it."

Delights of the Garden and Lawn.—A valued correspondent writes thus of his enjoyments, and, we have no doubt, very truthfully expresses his pleasures: "I and my man, Jeemes (the latter, especially), are at work, this fine spring morning, draining wet spots, feeding trees, relaying sods on the lawn, and preparing holes for transplanting. Can there be anything more delightful under the sun than this working (moderately!) in the dirt? How pleasant to wander through your grounds in spring, and find your old friends alive, and coming out to greet you! Then, what a glorious, healthy appetite it gives a sedentary man!! It makes him *almost* believe he had overrated his books and his intellectual pleasures. Beef-steak, and a cup of coffee, are things not to be despised even at Athens! A saucy young lady looking over my shoulder, requests me to add: 'I wonder if mamma will ever be able to teach me that there *can* be any pleasure in house cleaning like you describe in your planting?' To which I reply: 'Certainly, my young friend; you will find pleasure in performing *every duty*;' but she don't seem to understand me. The said lady was much amused with the Boston account of the female skaters, and as a supplement thereto I beg to add the following stray paragraph: 'The man who stoutly objected to his wife's learning to *skate*, a month ago, has at length come to the conclusion that he is perfectly willing to *let her slide*.'"

New Thuja.—At Mr. Buist's establishment, near Philadelphia, may be seen the new Thuja Borealis, which promises to be an important addition to our list, and is hardy. There has been some error in naming the Thuja gigantea; the decurrens has been sold for the gigantea, and *vice versa*. Now the real gigantea of Rivers (heretofore called decurrens) is hardy, but decurrens (sold for gigantea) is tender here. It will be well to remember this.

Dracæna speciosa variegata is an improvement on terminalis; this and nobilis will hold a superior rank to all others yet introduced.

Evergreens.—In looking over the evergreens in this vicinity, we find Abies Frazerii doing remarkably well; Menzesii, the same; Webbiana and Smithiana, poor, and much cut up.

Landscape Gardening on a Large Scale.—If one of the best efforts of the landscape gardener is exhibited in gracefully appropriating the grounds, &c., of one's neighbor, a correspondent who has achieved the following, deserves to be considered a master: "But my great work, this winter (concluded yesterday), is an *allée*, or aisle, six feet wide, and *three miles long*, through my cedar wood, and through three or four of my neighbors' woods, striking the river half-way over, and terminating in a factory at ————, which at night looks like Aladdin's palace; and arched over, apparently, the whole distance, it is entirely *sui generis* for this country, and like the *pleached* alley of Shakspeare."

The Pure Juice of the Grape.—J. J. Smith, Esq.—Dear Sir: The following anecdote (which I picked up lately) may amuse some of your temperance readers. My friend, Dr. S., told me that about thirty years ago—when our native wines were much talked of, but scarcely known—he was invited by a hospitable farmer of a neighboring State, to dine with him, and, amongst other inducements, was promised a glass of native wine—the "pure juice of the grape." At dinner, the wine was produced; it was of a fine red color, like claret or Burgundy. "There," said his host, "is something that I am proud of, for I made it myself, and know it to be a pure article—none of your foreign, mixed stuff." The doctor took a good taste of it, made a wry face, and set his glass down, remarking "that it was unlike any wine he had ever tasted." "I fear," said his friend, "you don't like it; but you need not be afraid to drink it, for it is a genuine native wine, and I pledge you my word it is the

'pure juice of the grape,' without a particle of sugar, or a drop of water in it. I assisted myself to gather the grapes of the best varieties from the woods, had the bunches packed carefully in a new, clean barrel, and *filled it up with whiskey*—the best old Bourbon I could find—to extract the grape juice. If that is not the pure native, I don't know what is." The doctor suggested that "it might be native enough, but was not wine." "Nonsense," said his friend; "have I not made 'peach liquor' that way many a time, and why not wine?" It was a long time before the doctor ventured to taste another glass of native wine *made in that neighborhood*. But they make excellent wine in that State now, since the introduction of the Catawba Grape. R. BUCHANAN.

Cincinnati, 15th of April, 1858.

ALTON, ILL., Feb. 2, 1858.

MR. EDITOR:, I am a young man yet, although I consider that I have learned a great deal from your most valuable journal, and can with pleasure say that there is as yet no magazine printed in this Union that can compete in rural art, taste, or cheapness, with it; and I look forward with pleasure when it will be found in the possession of every young amateur in the West. There are now three young men in this city who are your best friends, viz: Miller, Morgan, Barry; none of us are over nineteen years of age. It is also held in the highest estimation by many older amateurs in this vicinity.

I have in my fruit garden some very rare fruits, and I will tell you in the future if they are successful or not. Yours, truly, ADDISON SMITH MILLER.

HUMBUGS.—A correspondent in the West writes us very naively thus: "On the subject of humbugs, I must confess I rather like them; they give employment to a large class of ingenious persons denominated *quacks*, who are fit for no other occupation; and it is a beneficent provision of nature that has constituted the inside of the skulls of a certain portion of the human family to be preyed on by these parasites." A very benevolent view, indeed, but it might be wished there were not *quite so many*. When, however, hundreds of dollars are daily expended in America by advertising astrologists, one can hardly say that all the gulled are dead yet.

ROSES, ETC., FROM PITTSBURG, PA.—Mr. J. S. Negley, of Pittsburg, Pa., has backed our recommendation of his nursery by an elegantly packed box of novelties of superior excellence, and as an evidence of the advance of horticulture in that section of the West, we append a list of the newer articles:—

Roses.—Jules Margottin, General Castellan, William Masson, Souvenir de la Reine D'Angleterre, General Jacqueminot, and Madame de Cambaceres—all hybrid perpetuals in the best condition, with the celebrated tea-rose, Gloire de Dijon.

Verbenas.—Evening Star, Geant de Bataille, Celestial, Admiral Dundas, Mrs. Holford, Pet, Odorata Perfection, Joshua, Sarah, Ellen Murdoch, Elizabeth Strange, and Glory of America.

Petunias.—Striata Magnifica and Imperialis.

Veronica.—Meldensis.

Heliotrope.—Splendidum.

Lantanas.—Alba Grandiflora, Souvenir d'Alexander, and Crocea superba.

Geraniums.—President, and James Hardrop—on all which we shall report in due season.

FUCHSIAS AND VERBENAS.—To Mr. W. C. Strong, of Brighton, Mass., we are indebted for the following new plants:—

Fuchsias.—Fair Oriana, Little Treasure, Etoile du Nord, Souvenir de Chiswick, Star of the Night, and Venus de Medici.

Verbenas.—Yennadesse, Metropolitan, Radiant, Rubens, Mrs. French, and Geant de Bataille.

Roses from Mr. Rivers.—From Mr. Rivers, of Sawbridgeworth, Herts, England, we acknowledge a noble present of fifty of the finest and newest standard and dwarf standard Roses, by steamship via Southampton.

Value of the Earth-Worm.—The ground is almost alive with the common earth-worm. Wherever mould is turned up, there these sappers and miners are turned up with it. They are nature's ploughmen. They bore the stubborn soil in every direction, and render it pervious to air, rain, and the fibres of plants. Without these auxiliaries, "the farmer," says Gilbert White, "would find that his land would become cold, hard-boned and sterile." The green mantle of vegetation which covers the earth is dependent upon the worms which burrow in the bowels of it. What conveys a more definite idea of the magnitude of their operations, they are perpetually replenishing the upper soil, and covering with soft and fine material a crust which before was close and ungenial. They swallow a quantity of earth with their food, and having extracted the nutriment they eject the remainder at the outlet of their holes. This refuse forms the worm-crusts which are the annoyance of the gardener, who might be reconciled to them if he were aware that the depositors save him a hundred times more labor than they cause. They play a most important part in the economy of vegetation, and we see why they teem throughout the surface of the globe. Mr. Charles Darwin has shown that in thirteen years a field of pasture was covered to a depth of three inches and a half with the mould discharged from their intestines, and in another case the layer they had accumulated in eighty years was from twelve to fourteen inches thick.—*Quarterly Review.*

Answers to Correspondents.—(Mango.) It was Washington Irving, in *Salmagundi*, who gave the derivation of "mango:" "My cousin, Cockloft, was once nearly annihilated with astonishment on hearing Jeremy trace the derivation of mango from Jeremiah King; as Jeremiah King, Jerry King, Jerkin, gherkin, cucumber, mango."

Frigi Domo is a canvas made of patent prepared hair and wool—a perfect non-conductor of heat and cold, thus keeping a fixed temperature. Its cost in London is 1*s.* 8*d.* per yard run, and two yards wide; and to give our inquirer a clue to import it, *Elisha Thomas Archer*, 7 Trinity Lane, Cannon St., city of London, is the vendor. In England, it is used without glass. We trust some one will introduce it here.

(John A. Townley.) The Taxus Canadensis makes a beautiful spreading shrub, and bears the shears well; but it will never rise to more than four or six feet high.

(J. B. Roe.) If you will observe the growth of a tree for one season, you will find the answer to your question will be "*No!*"

(H. A. Terry, Crescent City, Iowa.) Your plant is the Clematis Virginiana. We are glad to find this beautiful native vine attracting such general attention.

Margaret.—We scarcely can name a single plant that is more useful in ornamenting a garden than the Canna major; the leaf has an oriental appearance, shall we say more palm-like than anything else so easily obtained? Its bulbs increase much every season; before frost they should be taken up, and kept rather dry under the stage of a greenhouse; they will grow larger if started in a hot-bed in the spring, and then plant them out in a bed that has been dug out to the depth of two feet, with some manure to give them a little warmth to start with, and the bed filled up with refuse potting soil, or the richer soil of the garden. Grouped, or in a circle, they are very ornamental; the same of Canna Indica,

which bears flowers; another circle may consist of Canna discolor. They all love water. The Chinese Pæonies require a rich light soil; good sandy loam suits them well, and they are readily propagated by dividing the roots in April or May, when the young shoots are a finger long.

"If after a decoction of herbs in a winter night," says an old author, "we expose the liquor to the frigid air, we may observe in the morning under a crust of ice, the perfect appearance, both in figure and color, of the plants that were taken from it." *Peter.* (Just so; and if you think of your lady love before a refracting telescope, you will see her next morning ironing your collars before breakfast; after which she will inspect the state of your wristband buttons, and before night *comb* YOUR *head.* Try it.)

A CORRESPONDENT writes for a list of the best continuous-blooming Roses—will find a capital list in our volume for 1856, page 224. The following is from *Glenny's* (London) *Garden Almanack: Constant Bloomers.*—Cymedor, crimson, tinged with purple; Duchesse de Montpensier, delicate pink, satin-like; Duchess of Sutherland, pink, of beautiful form; Prince of Wales, rosy lilac, shaded; Armosa, delicate pink, small; Pompone Parfait, purple; Comice de Seine et Marne, cherry red, shaded; Leveson Gower, rose color, large; Madame Angelina, cream color; Queen of Bourbons, most beautiful fawn; Aimee Vibert, pure white; Fellenberg, bright crimson; Miss Glegg, pure white, centre tinged; Goubault, brilliant rose color, large; Maria Leonida, white, tinged with pink; Blairii No. 2, pale blush; Paul Ricaut, bright crimson. *Constant Bloomers, Show Flowers.*—Baronne Prevost, bright rose color, large; Geant des Batailles, most vivid scarlety crimson; Souvenir de la Malmaison, creamy flesh blush; Comte de Paris, deep flesh-colored blush; Devoniensis, creamy white and straw. *Continuous-blooming Roses of Peculiar Character.*—Celemine, pink rose, fine form; Jaune Desprez, rich fawn, yellow centre; Archduke Charles, or the Changeable Rose, pink to crimson; Cramoisie supérieure, brilliant velvety scarlet; Buret, carmine, shaded; Safrano, bright apricot color. *Climbing Roses of Peculiar Character.*—Gloire de Rosamene, scarlety crimson, brilliant. *Continuous-blooming Climbing Roses of Peculiar Character.*—Prudence Rœser, pink, with fawn centre; Aimee Vibert scandens, similar, but a climber; La Biche, white, centre flesh. *Noisettes.*—Madame Masset and Madame Schults.

EVERGREENS ON THE SEA-SHORE.—(W.) Where the soil is of fair average quality, Araucaria imbricata, Pinus insignis, P. laricio, P. Austriaca, P. pinaster, Cryptomeria Japonica, Cupressus macrocarpa, and Abies Cephalonica, do well if not too cold. Cedrus deodara thrives just so long as shelter is provided; but no sooner does it outgrow its nurses or other protection than the leading shoot becomes blighted, and the habit of a shrub supersedes that of a tree. Where shelter has been provided and continued, mere proximity to the sea has not been prejudicial.

APPLE-PIE MELON.—However this may taste in California (where it has been greatly puffed), it has not done well here. A pie of it looks like the apple-pie, but the taste is perfectly *neutral;* all the acid and flavor you will have to put in from some other source.

CATALOGUES, ETC., RECEIVED.—Bridgeman's Descriptive Catalogue, No. 4. Fruit and Ornamental Trees, Shrubs, Vines, &c., for sale at Nos. 876 and 878 Broadway, New York. Nursery and Greenhouses, Astoria, N. Y. This is a very carefully prepared and accurate list of the best ornamental and fruit-trees, well deserving the attention of planters, gardeners, &c. At the establishment of the Messrs. Bridgeman, every desirable article in their line may be obtained.

A. Frost & Co.'s Descriptive Catalogue of Fruits, cultivated and sold at the Genesee Valley Nurseries, Rochester, N. Y. An ample list of a great assortment, every way worthy of attention. We are pleased to see these gentlemen's remarks on dwarf pear-trees, which

they recommend for the garden and for amateurs only. They admit that much dissatisfaction has arisen from want of care in their cultivation, and a selection of varieties not suited to the quince stock. When the mania raged the most, too little attention was paid to this matter, and of the millions of trees planted, a large portion have been abandoned. Better information now exists, and amateurs may put their orders into safe hands like Messrs. Frost & Co, whose large octavo catalogue should be one to keep and refer to. A volume of bound catalogues is an excellent thing to preserve, and we are glad to see our best nurserymen adopting a uniform size, which suits them for such a purpose.

Sherwood's Self-Acting Lawn and Farm Gate, patented by W. Sherwood, Beloit, Wis. A circular with an engraving exhibiting a very good contrivance, with the apparatus above ground.

Supplementary List of New Roses, Bedding Plants, &c. Negley & Co., Pittsburg, Pa. All that is new and excellent is here offered for sale.

Supplement et Extrait du Catalogue des Plantes Exotiques cultivées dans les serres de J. Linden, à Bruxelles, 1858.

List of Plants cultivated and sold by Geo. C. Thorburn, Newark, N. J. A most choice collection, including Dahlias, &c. &c. &c.

Thirty-Fifth Annual Report of the Mercantile Library Company of Philadelphia, Jan. 7, 1858. An excellent institution, which is moulding the mind of a large class of our fellow-citizens.

Report of the State Agricultural Society of California. This arrived too late for notice; it is a very interesting volume, and relates so many marvels of horticulture that we shall make an abstract for the ensuing number.

Biddy and the "Old Dominion," is a pamphlet giving an account of Arthur's "Old Dominion Coffee-Pot," of which many cooks give a good account.

B. K. Bliss' Seed List. A Descriptive Catalogue of all select varieties. Springfield, Mass. The same of Dahlias, Verbenas, Hollyhocks, Carnation, and Picotee Pinks, &c.

GOSSIP.

—— The cobweb-like spawn frequently observed about the roots of trees, especially of evergreens recently set out, should receive immediate attention whenever detected. The remedy to adopt if a plant appears in an unhealthy state (if in pots or planted out), is to take it up, being careful to preserve all the roots, and shake off every particle of soil from them, wash the roots, shaking and dipping them in water several times until they appear quite clean. Transplant either into the open ground, or into a wide, flat basket, have the roots disentangled, and laid out regularly. In spring, or early in the autumn, is the best time for performing this operation. In many cases in which Coniferæ are grown, and annually shifted into larger pots, probably for some four or five years, the roots become entangled and twisted into each other, and they are often planted out in that state, only loosening a few of the bottom ones; this kind of treatment, in a few years, must prove injurious, if it does not in time kill the plant. Coniferæ are often raised and grown in pots for a long time, sent to America, and afterwards planted out in the open ground with the roots matted together, and the ball entire. In such cases, the soil should be shaken from the roots, and untwisted up to the stem, and regularly laid out. A stake is necessary for a year or two, to keep the plant steady.

—— Frasenius, a German chemist, has made experiments on various fruits, demonstrating which are best, and why. The more a fruit contains of soluble matter, the more it is esteemed —such as the peach and greengage. And the more a fruit is cultivated, the more does it

contain of sugar, and the less of free acid and soluble matter. These facts may serve for household hints.

—— Rudolph Wagner has recently shown that a solution of decomposed salicilate of potash yields a liquor strongly charged with the scent of roses; and if this be distilled, it becomes an excellent artificial rose-water. Out of this a new branch of industry may be created, for the substance is comparatively cheap, and rose-water is much in request as a luxury for the toilet, &c.

—— A new kind of gutta percha, and, it is said, the best, has been imported into Holland from Surinam. It is a product of a species of sapodilla, which grows in such abundance, that, for years to come, the supply will be equal to the demand.

—— We shall shortly give a drawing of a stove for heating greenhouses by gas; it is now used abroad with manifest advantage, as it admits of regulation with nicety to any degree of temperature. Gas is now stated to be a preventive of contagion; for, according to accounts from Lisbon, the yellow fever did not visit the houses in that city which are lighted with gas.

—— Professor Cook stated, at the last meeting of the American Association for the Advancement of Science, that a subsidence is going on all along the coast from Delaware Bay to Boston. In New Jersey and Long Island, the effects are especially observable. Hundreds of thousands of acres of submerged forest lie a few feet below the swampy surface, and many farms have diminished within the memory of man. The Professor estimates the subsidence at two feet in a century. Two thousand years ago, Ovid sang:—

> "The face of places and their forms decay,
> And that is solid earth which once was sea;
> Seas, in their turn, retreating from the shore,
> Make solid land what ocean was before;
> And far from strands are shells of fishes found,
> And rusty anchors fixed on mountain ground;
> And what were fields before, now washed and worn
> By falling floods, from heights to valleys turn."

—— Pampas Grass.—On a former page will be found an engraving of this new favorite. The *London Florist* says: "For the decoration of gardens, the shrubbery, and rock-work, it is one of the most useful plants that have been introduced for some time. In appearance and height it rivals the Bamboo, and we can imagine few things that look better by the side of a piece of water, backed by clumps of dark Evergreens, Portugal Laurels, etc. Gynerium argenteum covers vast plains, the resort of immense herds of the quagga and wild horse, in the neighborhood of Buenos Ayres and the northern parts of Patagonia."

—— Cure for the Potato Disease.—Mr. John Kyle, to whom the French Government, in conjunction with the Agricultural Society of France, lately awarded a gold medal, besides a handsome prize in money, for his discovery of the cure of the vine disease, has found that the disease which has for so many years attacked the potato, is in reality the same distemper. The application of sulphur was Mr. Kyle's remedy; but as that material is expensive, he substituted quick-lime, and the result has been successful. Like the grape disease, the first manifestation of the potato distemper must be watched, as it is in its earliest stage that the application of the throwing the lime lightly on the "shaws" when the disease first appears.

—— Mr. Kidd, a famous English gardener, says: "The easiest, the quickest, and, above all, the most successful way of propagating verbenas, lobelias, and such like, is to fill flower-pot saucers with sand only, and to put in the cuttings as thick as they will stand, and place the saucers in a greenhouse or a parlor, or any close room where the heat is not lower than 50°; and I vouch for it, that nine hundred and ninety-nine out of a thousand will strike roots in a few days. Then let them be put into pots, boxes, handlights, or frames,

&c. Only try the experiment, and you will be surprised. What would you say to this *Ne Plus Ultra* twenty years ago?" This is the much talked of "new mode."

—— This subject of rapidity in striking is attracting much attention. D. Beaton, in the next *Cottage Gardener*, says: "Watercress will come from cuttings on the dining-table, if you throw pieces of it in a basin of water; and so will Mimulus. It is therefore evident that some cuttings will grow in sand in the sun, and other cuttings will grow in water out of the sun. Now mix the two systems, and you have Mr. Kidd's mode. He has tried it, proved it, and he is quite certain it is better and more safe, with much less care, than any other mode whatever, for Verbenas, Calceolarias, Lobelias, and a host of similar plants. Also, that one boy can put in as many cuttings as five men can make in the time. He fills a saucer one-half with white sand, and one-half with water, or makes the sandy, watery compound thick enough to hold up the cutting. If it was all water, the cuttings would fall over on one side, but it is held upright; it wants the water kept up, and the cuttings will root rather faster than in the usual way, under the same degree of heat. For a kitchen window, this is the best way in the world for cuttings."

—— A tell-tale flower-pot, which *will tell* when a plant in it is in want of water, is a recent invention. No more queries about how often or how much water to give to a plant. They are sold by Mr. Smith, 3 Queen's Road, Chelsea, who says: "A very important advantage in these pots is, that on account of their becoming a deeper color in proportion to their dampness, they give a clear indication of the state of the roots, which enables the attendant to regulate the watering with the greatest nicety." This "clear indication" was shown to us by one of the pots half full of water, and another empty; the dry one is of a light stone color; but the moment the water runs into its porous sides, it becomes a dark, shaded color. They are certainly handsome and well-made.

—— The following wash destroys both green and black aphis on flowers and fruit-trees: Four pounds rosin, one pound soda ash, or five pounds rosin, one pound caustic potash; three and one-half gallons water. Boil them together in an old iron pot until the rosin is dissolved. If caustic soda is used, allow the dissolved rosin to settle to the bottom of the vessel; throw the supernatant mother liquor away, otherwise the rosin will not combine with an additional quantity of water. Add one quart of the dissolved rosin to three gallons of water, and syringe your trees or flowers with the solution, which is a rosin soup, and the effect is seen in a very short time by the disappearance of the aphis; care, however, should be taken that the solution is not too strong, otherwise the blossom buds may be destroyed as well as the aphides. The discoverer of this has successfully employed it both in his hothouses and in the open air, for several years. Let any trying the experiment for the first time, use it rather too weak than too strong. It is well known that first crop of aphides hatch from the ova with just such a temperature as sets the sap in motion, and swells the buds; therefore, syringe as soon the buds expand, and catch the aphides without their top coats—in other words, before the leaves have unfolded themselves, and the insects have of course not had time to roll themselves up by their incessant punctures of the leaves. By thus syringing the trees, the whole crop of aphides is killed, and the gardener then waits until the trees have blossomed, and the fruit is well set; he then gives another syringing of the trees, which keeps them in a clean condition. Adopt the same plan with roses, asters, chrysanthemums, &c., as well as plums and cherries.

MISCELLANEA.

The soil of old vineyards is found to be deficient in potash. To remedy this, it has been suggested that granite should be heated to redness, plunged in water, and ground to powder.

Mix this with about half its weight of lime, and expose the mass to the action of the atmosphere; this compost may then be applied as a manure to the vines, with a probable hope that it will remove the disease now so prevalent.

Gas Tar.—This should never be used in the inside of plant-houses. Its fumes are destructive to vegetation. Even when used out of doors, it is sometimes mischievous if very near plants, until, with time, its volatile matter becomes exhausted.

Roses for Bedding.—The following make beautiful beds: Devoniensis, Mrs. Bosanquet, and Souvenir de la Malmaison. The most striking bed that I have ever seen, however, was made with dwarfs of Géant de Bataille, with the Noisette Aimée Vibert planted between, and pegged down over the bed in autumn; the white blossoms and glossy-green leaves of the latter make a fine contrast with the vivid crimson of the former.—D. K.

The Plum, like other fruit-trees, flourishes best in well-drained, retentive, clay subsoil; although it luxuriates in a strong, clayey loam, thorough drainage is requisite to prevent the trees being covered with *moss*, which often infests them in damp situations, and in which state it does not exactly render the trees unfruitful, but fine fruit cannot be looked for till they are cleaned from this parasitical pest, which can be done by dressing the branches with strong lime-water, or a mixture of soft-soap, salt, and urine. However, it is well to bear in mind the old adage, that "A preventive is better than a cure;" therefore guard against the evil, if possible, by proper drainage, and by top-dressing with manure, either liquid or solid, should they manifest any sign of feebleness.

The Rose.—The Rose, with all her beauty, has only of late years become a "florist's flower." With all her glowing colors and her rich perfume, she has been wofully wanting in shape; and we have only to recall, in proof, a pan of Roses, as exhibited some ten or dozen years ago. Blooms, large and beautiful (if you did not mind the green "eye"), were plenteous; but blooms like Paul Ricaut, Madame Rivers, Louise Peyronney, and many others, which we shall see in July, were indeed few and precious.

Great Results.—The *Report* of the California State Agricultural Society contains the following statement: "We visited the garden of the Rev. Mr. Kroh. His lot of fifty by one hundred feet, contains two hundred and forty-five grape-vines of different ages, sixty-nine of which are in full bearing. He has twenty-seven apple-trees, eleven plum-trees, seventy-nine peach-trees, seventy-three nectarines, four pear-trees, thirty-seven apricots; also cherries, quinces, &c. Whole number of trees and vines, one thousand one hundred and twenty-one, besides considerable shrubbery and vegetables." That is the man to preach to the people.

Notes for the Month.

MAY.

VINEYARD CALENDAR.

BY R. BUCHANAN, CINCINNATI, OHIO.

This is said to be an idle month for the vine-dresser; but that is a sad mistake. Much has to be done, and at the right time, too. Tying the vines to the stakes will of course have been finished by the middle of last month, and probably hoeing or ploughing by the

latter end of it. Many cultivators prefer not to work their vineyards until the first week in May, to prevent the buds from pushing out too early, and being exposed to injury from late spring frosts. My own observation favors this recommendation.

With the first warm weather in this month, the young shoots will grow rapidly. Superfluous ones should be rubbed off, especially those from the main stock near the ground, leaving *one* on stalks that are too long, that it may make a shoot in two or three years strong enough to cut down to, and form a new head for the vine. By this means, the vine is kept down to a proper height, and within reach and control. When the blossom or fruit buds are fairly developed, and just before they expand, the top end of the tender branch is pinched off within two or three joints of the last or upper bud. The canes or branches intended for bearing wood next year (two or three), are never pinched in.

Towards the latter end of this month—if the season is early—many lateral shoots will require pinching or cutting out, that the strength of the vine may go to the fruit, and not be expended in useless suckers. Tying up the young fruit branches to the stakes, may also be necessary at this time. Ties made of rye straw are the cheapest and best. Take a handful of straw; make the butts even, and cut the heads off; wet them, and take two or three straws, and twist round the young vine and the stake, and fasten the ends like the band round a sheaf of wheat, cutting off the ends if too long. By an expert hand, this is done very quick. Wheat straw is the next best to rye.

Insects.—Keep a sharp look-out for insects all this month. A small, *green worm* will be found preying on the tender blossom buds; it may be picked off in the morning or evening. The curculio is sometimes found after the barriers are formed, and may be destroyed by shaking off into a bucket of lime-water.

Diseases.—In France, last year, *sulphur* was used with eminent success as a remedy for the "oidium"—a disease similar to the mildew and rot in this country. Many of our vine-dressers intend to scatter flour of sulphur under their vines soon after the first hoeing, and again early in July, in hopes it may in some measure prevent those diseases. It will probably also be obnoxious to insects.

Another method is, syringing the vines and fruit bunches with sulphur and lime-water. Ten pounds of flour of sulphur, and half a bushel of lime, to forty gallons of water, mixed first with ten gallons of *hot* water.

These experiments will not be expensive, and may possibly be found useful.

The *wine* may undergo the second fermentation about the time of the blossoming of the grape. Loosen the bungs of the casks. In a few days it will be over; then drive the bung in tight again.

BY WILLIAM SAUNDERS, GERMANTOWN, PA.

Vegetable Garden.—The great aim of all good cultivators is to maintain a continued healthy and vigorous growth from the time the seed vegetates until the plant arrives at maturity. This is, in fact, the true meaning of the word "cultivation." There is a wide distinction between what is frequently called a well kept garden and a well cultivated one. The former may be kept perfectly clear of weeds by the use of hoe and rake—every spot of surface smooth and highly polished. The vegetables may have a starved look about them, and languish and wilter after a hot day; yet, with many persons, such gardening would be considered perfection. This is not cultivation. Hoeing, as understood by the really successful gardeners, means something more than killing weeds, although it also necessarily involves their destruction. His crops are so arranged on the drill system as to admit of deep working between the rows. This is performed with a strong scuffle-hoe, or a suitable broad-tined digging fork; in either case, the soil is deeply and thoroughly broken up, and left rough, loose, and not trampled upon. This is his criterion of beauty in a vegetable garden. He sees no beauty in a smooth and finely raked surface.

Seeds of the cabbage family should now be sown for a winter supply of vegetables; the savoy, broccoli, and Brussels' sprouts, are useful sorts, and should not be overlooked. Cauliflower sown now, and the plants set out, when large enough, in a good soil, will perhaps form heads in the fall, before frost, if the weather proves favorable; and if they do not exhibit any symptoms of heading before frost, they can be lifted and laid in a cool cellar, or planted thickly in a trench, and covered with soil and litter; they will form heads tolerably well either way, and be available when such vegetables are scarce.

Grapery.—There is this evil attending the management of a cold grapery: that should a few days of unusually cold or damp weather occur after growth has commenced, there is no way of guarding against a sudden check to the young and tender growths. Such checks

are the most of all things likely to produce disease, which will be observed by the parts becoming mildewed; and the more tender and succulent the growths, the greater the danger in this respect. Therefore I have advised what I invariably practice: that the vines should, from their first starting into growth, be inured to fluctuations similar to what takes place in the open air, although it will not, of course, be so sudden, nor to so great an extent as the outside temperature, on account of the intervention of the glass. In alluding to fluctuations of temperature in connection with plant-houses, it is with reference to the variations of night and day, as opposed to a uniform degree during these periods. The usual advice of books allows a decrease of 8° or 10° during night. What I contend for, is a lowering of from 20° to 25° during the absence of light; so that growth will not be excited at that time. In very warm, sunny weather, the day temperature may be allowed to exceed the night by 30° or 35°. It is a practice quite common to close the house early in the afternoon, and open in the morning. If this method of ventilating be closely observed, it will be found that the inside temperature will rise after the house is closed (when it ought to be gradually cooling), and, in the morning, the thermometer will suddenly drop 5° or 8° after opening the ventilators, when a gradual rise would be more natural. I do not recommend such *minor* fluctuations as these.

It is also part of the above system of management to allow air at night when the fruit is commencing to color. The sudden change of treatment checks the plant, and retards, instead of hastening, the coloring process. During the month of August, 1856, I visited over thirty graperies in the States of Pennsylvania, New York, Connecticut, and Massachusetts, and the two finest crops were in houses that had never been completely closed during night from the time the fruit was set, although, when the days were cloudy and cool, the ventilators would be kept shut, and opened a little during night. This being in accordance with my own experience, it was gratifying to find it corroborated by others.

In the August number of the *Horticulturist* for that year, Mr. Huidekoper suggests that if I were to observe more closely, I would come to a different conclusion. His remarks only prove what, indeed, we all know: that it is oftentimes easier to throw doubts and surmises around a question than demonstrate its error. My advice is based upon experience, and not, as he supposes, upon analogy.

Rock-Work.—A rockery is a very interesting feature in gardens. We do not mean a pile of rocks fantastically heaped in mounds in the midst of highly kept flower beds, or those perpendicular walls of boulders occasionally met with, set in conspicuous parts of a lawn, having the appearance of miniature forts. Rockeries, we have often been told, are dangerous features in ornamental grounds. This is true, so far as attempting to imitate natural rocky scenery is concerned; but it is no reason why we should abandon the cultivation of alpine and other plants which thrive best in such places, because such features have been misplaced. A small affair of this kind—built in a perfectly secluded and concealed spot, shut in on all sides by evergreens, and approached by a small winding walk or path—does not, we conceive, violate any principles of good taste. A simple mound of soil, held together by a few pieces of rocks, may be made very interesting. More elaborate outlines may be made by the use of cement, leaving spaces for setting the plants. For the cultivation of native wild plants, such a place is very appropriate. Ferns may be largely planted. It is by the introduction of these and similar ornaments, that small and limited grounds are frequently more interesting than those large pleasure parks and shrubberies more expensively constructed, but without appropriate display of taste.

Planting Evergreens.—We are more than ever convinced that the first week of this month, *for this locality*, is the safest time to plant all evergreen trees and shrubs. Further north, a week or so later will be equally suitable. If the soil is in proper condition, and the roots carefully spread out and imbedded in it, and the plant secured from being swayed to and fro by wind, there is every likelihood of success, so far as *planting* can effect it. No planter can set a tree to grow that has been severely mutilated in lifting, and only a mere apology of a root left. Immediately after planting, or within a few days, unless it rains, they should receive a thorough watering, if at all practicable. Growth will speedily commence, and a mulching over the roots will insure its continuation. If a few of the terminal points of the branches can be removed without interfering with the form of the plant, it will further tend to induce a speedy and healthy action of root growth.

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France *Enchiatte*

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